UNIVERSITY OF SOUTHAMPTON

FACULTY OF SOCIAL, HUMAN AND MATHMATICAL SCINCES

Southampton Education School

An Investigation of the Use of Student-Generated Digital Video to Support Students' Engagement in their Own Learning

By

Faisal Almutairi

Thesis for the degree of Doctor of Philosophy

February_2018

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ABSTRACT

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AN INVESTIGATION OF THE USE OF STUDENT-GENERATED DIGITAL VIDEO TO SUPPORT STUDENTS' ENGAGEMENT IN THEIR OWN LEARNING

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This thesis is situated within a pragmatic view of abductive explanation (Peirce, 1998; Mantere & Ketovki, 2013; Martela, 2015). It draws on a qualitative case study that investigates the use of student-generated digital video (SGDV) in higher education pedagogy, where SGDV is designed to enhance student engagement in learning activities. The study focuses on lecturers' and students' views on integrating SGDV into teaching at the College of Basic Education, which forms part of the Public Authority for Applied Education and Training (PAAET) in Kuwait; a higher education institution dedicated to teacher training and education. The resulting research is both significant and distinct in its approach to gaining an understanding of how students engage in learning tasks when creating digital videos (SGDVs). The study findings indicate that student engagement can be enhanced if lecturers, as facilitators of learning, use active learning strategies and motivate students through authentic scenarios, tasks and projects. The findings also confirm that student engagement is a multi-dimensional concept.

This current work revealed that student engagement involves collaboration and group dynamics, which are presented as an integrated theme associated with active learning. The findings consequently led to the development of an SGDV model of student engagement, portraying the most universal approaches to engagement emerging within the research context. In brief, this study is aimed at informing the design of pedagogical models for the enhancement of student engagement.

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DECLARATION OF AUTHORSHIP

I, Faisal Almutairi

Declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

An Investigation of the Use of Student-Generated Digital Video to Support Students' Engagement in their Own Learning

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;

Signed: .....

Date: .....

Acknowledgements

I would like to take this opportunity to thank the members of the University of Southampton Research Committee, with special acknowledgement and appreciation of the guidance given by Dr. John Woollard throughout the process of preparing this thesis. His feedback has been essential to its completion. Sincere thanks are also extended to Professor Lianghuo Fan for generously giving up his time and providing feedback to enhance the quality of this thesis. Also included in this acknowledgement are all my colleagues at Southampton School of Education, who played a pivotal role in the development of my study.

Finally, I must not forget the crucial contribution made by my family and friends, especially my wonderful parents and lovely wife. My exchanges with them motivated and compelled me to think, write and complete this thesis and my heartfelt gratitude goes out to them all.

Abbreviations

ACK = Australian College of Kuwait

AUK = The American University in Kuwait

BHCK = Box-Hill College Kuwait

DiAL-e = The Digital Artefacts for Learning Engagement

EEA = The European Economic Area

ERGO = Ethics and Research Governance Online

GAC = Gulf American College

GUST = Gulf University for Science and Technology

KMBS = Kuwait-Maastricht Business School

PAAET = The Public Authority for Applied Education and Training

SGDV = Student-Generated Digital Video

TPACK = Technological Pedagogical and Content Knowledge

Chapter 1: The Study of Student Engagement

1.1 Introduction

The innovative use of technology by lecturers can change the significance of a learning activity, specifically when endeavouring to explain complex subject content. Therefore, activities are designed to inspire students to do things differently and make more use of technology; for example, by engaging in hands-on work and practical events within active learning spaces. Lecturers who use such strategies support independent learning and increase students' confidence and motivation. The learning environments created by lecturers and the approaches adopted to engage students are therefore essential aspects of the learning design. As a result, lecturers increase opportunities for student engagement.

Kuwait is in the process of developing a competence-based curriculum for the 21st century (Singer, Samihaian, Holbrook & Crisan, 2014). Reforms in its education sector have focused on technology. As a result, policy-makers have adopted a variety of innovative technologies to improve the quality of student learning. Technologies that support and enhance motivation and engagement, as well as improving collaborative learning skills, have subsequently been integrated into the curriculum in Kuwait's higher education institutions. One particular learning design incorporates videos and it is referred to by a number of different names, such as 'digital video tasks' or 'digital video projects'; 'student-created videos'; 'video-production activities' and 'student-generated digital video'(see Appendix N). Throughout the present thesis, however, it will be referred to as student-generated digital video (SGDV).

SGDVs are created by students using digital tools, including digital cameras, microphones, computers and a wide range of software that may be used in the video-production process, such as Windows Movie Maker, Animoto, Route Generator, Pixton, etc. However, SGDV integration is likely to be of greater educational benefit to students, if structured and planned carefully. Moreover, it is claimed that these digital videos are real-world applications or tools that can be used in actual

practice. In other words, practical or real-world applications exclude virtual or artificial objects and environments. Additionally, such videos serve as powerful cognitive tools, which learners may use to create knowledge by meaningfully engaging with the real world (Kearney & Schuck, 2006).

The central focus of this study is the integration of SGDV by lecturers and its use as a learning approach, whereby learners produce instructional videos as part of the Instructional Television module at the College of Basic Education in Kuwait's Public Authority for Applied Education and Training (PAAET). Hence, the study examines the use of SGDV to support and enhance student engagement in the higher education classroom. Digital videos were consequently integrated into an Instructional Television course, where students learn script-writing, the use of cameras, video production and video-editing. It emphasises the application of video technologies to produce educational programmes of professional quality, not only within subject areas, but also in diverse areas of learning and even entertainment.

The Instructional Television module is a mandatory course offered as part of an undergraduate programme at the College of Basic Education (one of the colleges within PAAET), which trains prospective teachers for positions in Kuwaiti schools (kindergarten and elementary schools). This course is also part of an initiative to provide students with the opportunity to produce videos, as a means of promoting engagement in real-world tasks. This novel course is expected to bring about change (opportunities as well as challenges) in students' learning experience, as well as in lecturer-student interaction. It therefore presented a unique research opportunity, in terms of investigating how lecturers use SGDV to support students' engagement in their learning and how they actually engage in their learning within these 'real-life' contexts.

Moreover, this integrated SGDV Instructional Television course is collaborative in nature and lays great emphasis on group work. Although these videos are common in Western educational contexts, the novelty of the project also appears to have caught the imagination of students in Kuwait. Such a pedagogical design may include blended perspectives or elements that emphasise learning as the construction of knowledge (the cognitive perspective or Piaget's constructivist

theory), social constructivism (Vygotsky's theory) and learning as social practice (the situative perspective or situated learning theory proposed by Lave & Wenger, 1991). As a result, this thesis mainly concentrates on the principles and theories underpinning the learning design applied to the SGDV course. This is expected to provide an understanding of the overlap of complex interaction in such a design to support student-student and student-lecturer interaction, and of the ways in which these interactions encourage students to engage in their own learning.

This chapter comprises a rationale for the study, followed by clarification of the research aims and the formulation of research questions. Also described is the study's anticipated impact. These being established, the research approach is subsequently outlined and finally, the structure of the thesis in its eight chapters.

1.2 Study Rationale

There is sufficient research literature extolling the value of incorporating digital video in the classroom (Kearney & Schuck, 2005; Schuck & Kearney, 2006b; Hoban, 2009; Hoban, Nielsen & Carceller, 2010; Kearney, 2011; Kearney, Jones & Roberts, 2012; Abulencia, Silverstein & Vigeant, 2014). Significant numbers of lecturers have considered the use of student-generated videos to enhance their lectures and provide learners with real-world situations (Greene & Crespi, 2012). However, although there are claims in the literature (for example, Henderson, Romeo, Auld, Holkner, Russell, Seah & Fernando, 2010; Halter & Levin, 2014; Rose, Sierschynski & Björling, 2016) that SGDV can be used in higher education to enhance student engagement, there is a lack of substantial evidence to support how such improvements can occur. The recommendations made by Kearney and Schuck (2006) point to a need for more research and have thus provided the impetus for the current study. Another important reason for conducting this study was to try and understand the relationship between the use of SGDV in practice; theories of teaching and learning; the role of the learning design; the use of the learning design both within and outside the classroom, and the impact of the learning design on student engagement. These themes have been identified by other researchers, but were considered by the present researcher as worthy of further research

and investigation. Moreover, there is a dearth of research on how college students, both in Kuwait and elsewhere in the Gulf region, approach the creation of videos as an active learning assignment.

This current study will help close the above-mentioned research gap by exploring the use of SGDV amongst undergraduates and evaluating whether this learning task or activity supports and enhances student engagement. There is also an emerging need for a more applicable conceptual framework to ensure a better understanding amongst teachers, educational policy-makers and researchers of the benefits of digital video. Additionally, there is a need for research that will not only consider the role of the educator in facilitating student engagement, but also the perceptions of students using digital video for learning. This study therefore sets out to gain a deeper insight into these areas by adopting a pragmatic stance and using abductive inference as the 'logic of discovery' (Peirce, 1998).

1.3 Research Aims

The focus of this study is on gaining an understanding of the way in which lecturers and students use SGDV for teaching and learning in the classroom. It therefore aims:

1. To gain lecturers' insights into how they use SGDV to support student engagement.
2. To gain students' insights into how they engage in their learning when incorporating SGDV in the classroom.
3. To investigate students' self-reported beliefs about SGDV as a tool for engaging in learning activities.

1.4 Research Questions

1. How do lecturers use student-generated digital video (SGDV) to support students' engagement in their own learning?
2. How do students engage in their learning when SGDV is incorporated into the classroom?

3. What are students' self-reported beliefs about SGDV as a tool for engaging in learning activities?

1.5 Impact of the Study

The expectations of this study are to:

a) Aid in the understanding of the present situation, with regard to the way in which digital video is used in higher education institutions in Kuwait.

b) Bring to light the perceptions and beliefs of lecturers and students about the use of student-generated video as a tool for promoting student engagement.

c) Demonstrate to lecturers and educational policy-makers the educational affordances of digital video (or its characteristics, which allow users to effectively achieve their goals).

d) Make recommendations to lecturers, educational policy-makers and all those responsible for integrating new technologies into higher education.

e) Inform educators about how pedagogy may be enhanced using SGDV.

1.6 Research Approach

A pragmatic research paradigm based on abductive inference (Peirce, 1998) was adopted in this qualitative case study, in order to develop a deep understanding of classroom practices where SGDVs are created. A case study methodology ensured that details were gathered of how lecturers use this technology to support and facilitate student engagement, of how students engage in their learning, and of students' beliefs about its use as a tool for promoting engagement in learning activities. Therefore, student engagement is the case, issue or unit of analysis explored in this instance. Data were therefore collected by means of questionnaires from students at the College of Basic Education in Kuwait, followed by interviews with lecturers and students, classroom observations and focus group interviews with students.

1.7 Structure of the Thesis

This thesis is divided into eight chapters, according to the outline presented below:

Chapter One is introductory and starts with a rationale for the choice of research topic. It also gives a brief overview of the learning activity (the creation of SGDVs) and its use to support students' engagement in their own learning. The research aims, research questions and study expectations are also included in this chapter.

Chapter Two presents some brief background to the study, beginning with general information about the State of Kuwait, such as its geography, demography, economy, language, religion and culture. Thus, an overview of education in Kuwait is presented with emphasis on the adoption of information and communication technology (ICT), and its implementation in educational institutions in general and the classroom in particular. This chapter concludes by discussing the application of such technologies and the challenges facing institutions and academics when attempting to integrate them effectively into Kuwait's higher education sector.

Chapter Three provides a comprehensive review of the relevant literature. It includes an overview of the use of ICT for learning and teaching in higher education, such as its application in authentic learning, some background on SGDV and its nature, its pedagogical affordances, and recent studies on SGDV in the context of higher education. This chapter also explores digital video from a theoretical perspective, with a focus on student engagement and teacher-student interaction.

Chapter Four presents the theoretical background on digital video projects and sets out the conceptual framework for the study.

Chapter Five discusses the general methodological issues relating to this thesis and justification for the use of a qualitative case study approach. Issues relating to sampling; the selection of participants for the questionnaire, interviews, observations and focus groups; the research instruments; pilot-testing, and the reliability and validity of the instruments are also given due

consideration. Furthermore, the chapter discusses the procedures involved in the data collection, data analysis, ethical issues and methodological challenges of the present study.

Chapter Six explains the data analysis process and presents the results of the study, while also identifying the most prominent themes related to student engagement in learning through the creation of videos.

Chapter Seven compares and contrasts data, discussing the results of the present study. It subsequently identifies the themes and findings relating to the research questions and conceptual model of learner engagement.

Finally, Chapter Eight concludes the thesis and states the implications for theory, practice and future research. It highlights the contribution made by this study, but also cites its limitations, making recommendations based on the research findings.

Chapter 2: Research Background

2.1 Introduction

The aim of this chapter is to present background information related to the research topic. The chapter will begin with general information about the State of Kuwait, such as its geography, demography, economy, language, religion and culture. Next, an overview of education in Kuwait will be presented, with an emphasis on the adoption and implementation of ICT in educational institutions and classrooms. The chapter concludes by discussing the adoption of SGDV in Kuwait's higher education sector, as well as the challenges facing institutions and academics when attempting to integrate it effectively.

This chapter therefore comprises sections that present general information about the State of Kuwait, with an overview of its education sector. Special reference will be made to Kuwait's Public Authority for Applied Education and Training (PAAET). Meanwhile, an overview of ICT adoption in Kuwait will be reviewed, as well as the integration of e-learning in the context of Kuwait overall and more especially, the use of ICT at PAAET and the College of Basic Education. To give some general background on the technology covered in this thesis, one section will be devoted to international perspectives of the use of video in teaching and learning at the level of higher education, with a specific examination of this practice at PAAET, the College of Basic Education and its Educational Technology Department. Finally, the challenges that accompany the application of video technology will be examined and the chapter briefly summarised.

2.2 General Information about the State of Kuwait

Kuwait is a small, oil-rich monarchy located in South-West Asia, with a land area of 17,818 km^2 (Kuwait Government Online, 2015). It is bounded to the north and north-west by Iraq, and to the south and south-west, by the Kingdom of Saudi Arabia. In the east lies the Persian Gulf (see Figure 1). Kuwait, with its dominant desert topography has an arid climate, characterised by hot summers

and scanty rainfall (Kuwait Government Online, 2015). The country was founded by Sheikh Sabah in 1756, becoming an independent nation in 1961 and a member of the United Nations (UN) in 1963 (Al-Diwan Al-Amiri, 2017).

Figure 1: Map of Kuwait

One of the most significant facts about Kuwait is that more than 69.7% of its total population of over 4.47 million are foreign-born, as at 2017 (The Public Authority for Civil Information, 2017). Based on Public Authority for Civil Information statistics, the 1,338,418 Kuwaitis in the country are outnumbered by expatriates from the Indian sub-continent, Egypt, Palestine, Jordan and South-East Asia (The Public Authority for Civil Information, 2017).

Articles 1, 2 and 3 of the State and System of Government, forming part of the Constitution of Kuwait, which was drafted in 1962, identifies all Kuwaiti nationals as Kuwaitis (Kuwait's Constitution, 1962). The Constitution also emphasises that these citizens are Arab that Islam is the nation's religion, and that Arabic is Kuwait's official language. Moreover, Article 29 of Public Rights and Duties in the Constitution declares that all inhabitants of Kuwait will be treated equally and respected as fellow humans, devoid of any distinction as to race, ethnicity, origin, language, faith or beliefs (Kuwait's Constitution, 1962). However, English is also widely spoken in the country and

taught at schools and higher educational institutions as the country's unofficial second language (Kamal, 2012), which merely indicates that proficiency in the English language is considered important for accessing economic opportunities and for the development of the national workforce (Karmani, 2005; Alqahtani, 2011).

Economically, Kuwait is oil-rich and depends on revenue from petroleum products. It is therefore a member of the Organisation of the Petroleum Exporting Countries (OPEC) and has crude oil reserves of over 100 billion barrels (therefore, the sixth largest oil reserves in the world). In brief, it is cited as the world's 10th largest oil producer, with a target production capacity of four million barrels per day projected for 2020 (U.S. Energy Information Administration, 2013; Aarts & Renner, 2014). Meanwhile, Kuwait is also a member of the Gulf Cooperation Council (GCC), which consists of the Kingdom of Saudi Arabia, Kingdom of Bahrain, Qatar, United Arab Emirates (UEA) and Sultanate of Oman. The main objective of this association between neighbouring countries is to facilitate political and economic relations. Through this association, Kuwait intends to share common interests, such as religion, language and other cultural dimensions. However, most oil-exporting GCC states face similar challenges in creating jobs and fostering more inclusive growth. However, the road to a more diverse economy is to adopt a technology-based approach and prepare the workforce of tomorrow.

2.3 Overview of Education in Kuwait

2.3.1 Early Education

The focus during the earliest years of the development of education in Kuwait was to provide basic literacy training in religion and develop mathematics skills in Quranic schools. A certain degree of standardisation led to the formation of the first school for boys in 1911, known as the Mubarakiyah School. This was the first formal school on the Arabian Peninsula, established before the discovery of oil (Ridge, 2014). During this stage, the schools had an organised curriculum, but still taught religion and Arabic, besides arithmetic, history and English. The second school for boys to be

founded was known as Al-Ahmadiya and this was established in 1921. Meanwhile, the first formal school for girls was known as the Al-Woustta school, founded in 1938 (Educational Statistics Group, 2012). The discovery of oil in the 1930s then ensured long-term economic growth and encouraged Kuwait's rulers to give priority to education. Currently, there are 800 government-run schools in Kuwait (Central Statistical Bureau, 2016).

2.3.2 Current Education System in Kuwait

When the Kuwaiti Constitution was promulgated in 1962, education was given utmost importance. Article 13 of the Constitution states that education is essential for the development of society. Therefore, it is guaranteed and sponsored by the State (Kuwait's Constitution, 1962). However, until the mid-1960s, there were no higher education institutions in Kuwait, which resulted in the establishment of Kuwait University in 1966. The Ministry of Higher Education was subsequently established in 1988, which led to the formation of Kuwait University, PAAET, the Institute of Music Studies, and the Institute of Arts, as well as all private universities, such as the American University in Kuwait (AUK); Gulf University for Science and Technology (GUST); Gulf American College (GAC); Australian College of Kuwait (ACK); Box-Hill College Kuwait (BHCK), and Kuwait-Maastricht Business School (KMBS). The Ministry of Higher Education supervises all these institutions. In addition, the Ministry has several cultural offices in developed countries, such as Australia, the US, Canada, the UK, Ireland, Russia, France and certain Arab countries, for the purpose of directing and guiding Kuwaiti students studying there.

2.4 The Public Authority for Applied Education and Training (PAAET)

PAAET is an independent institution created in 1982 to provide technical and vocational training, including the training of in-service/pre-service teachers (PAAET, 2015). In essence, the main goal of PAAET is to supply higher education institutions with well-qualified and appropriately trained faculty staff, as well as a skilled workforce for the local labour market, made up of Kuwaiti nationals. The ultimate aim of this is to contribute to the sustainable and balanced growth of the nation

(UNESCO, 2015). PAAET offers specific programmes and specialised courses in various disciplines, for example in-service training and continuing education. Programmes may be accessed at various colleges and training centres; for example, the College of Basic Education, the College of Business Studies, the College of Technological Studies, the College of Health Sciences and the College of Nursing. All these colleges and institutes are autonomous, but they function with the support of Kuwait's Ministry of Higher Education. According to the PAAET website, there are currently over 39,000 students enrolled at its colleges and institutes, with over 2000 faculty members and approximately 1100 training staff (PAEET, 2015).

2.4.1 College of Basic Education

Once schools were established, the Ministry of Education realised that teacher training was essential for improving teaching and learning, and in 1962, the Teacher Preparation Institute was established, currently referred to as the College of Basic Education (Alajmi, 2011). The College of Basic Education trains upcoming teachers, who later take up positions in Kuwaiti schools (kindergarten and elementary schools). All programmes are of four-year duration. Besides teacher-training, however, the College also offers consultancy services to institutions, contributes to scientific knowledge by carrying out research in conjunction with partner institutions, and prepares academic librarians (Alajmi, 2011). All classrooms at the college are equipped with technology that is suitable for running a functional classroom. Moreover, the college has full wireless coverage, enabling students to use the Internet. Finally, the College employs full-time staff to run and maintain the technology used to create videos.

In order to achieve its objectives, the College of Basic Education has designed a curriculum for teacher education, which comprises three constituent parts: cultural preparation, academic preparation and vocational preparation (Almodaires, 2009). The cultural element is meant to develop students' knowledge, skills, and perspectives, based on society's beliefs, notions about learning, and demands. The academic element includes general and professional education. It introduces students to their field of specialisation, along with the values required for teaching

specific subjects, for example language or religion. The vocational element relates to the principles and practice of teaching, thus preparing trainees to work in professional environments. In other words, students at the College of Basic Education learn about teaching approaches, appraisal, assessment and field training (Almodaires, 2009). However, special significance is attached to the cultural component.

One of the departments of the College of Basic Education is the Department of Educational Technology, which provides training in the use of technology. The responsibility of this Department is not only to ensure that students embrace technology for learning, but also that they understand its theoretical and practical applications, as well as developing the required skills, learning collaboratively, and designing, developing and evaluating educational media (Public Authority for Applied Education and Training [PAAET], 2015). The Department also introduces learners to audio- and video production and prepares them to acquire skills related to television production, cinematography, animation (2D and 3D), lighting, script-writing and editing (PAAET, 2015). This may even mean lecturers teaching students the social skills that will facilitate learning through collaboration. It involves the use of culturally sensitive strategies and content, in order to ensure students' academic success. Lecturers are consequently expected to provide culturally responsive instruction for their students, using culturally-situated exercises and projects. In other words, they are required to support students and develop the workforce of the future by using a more culturally-grounded system of education and training (Crabtree, 2010).

2.5 Adoption of Information and Communication Technology (ICT) in the State of Kuwait

Computers were first introduced into Kuwait's schools between 1994 and 1995, but it was only in the early years of the new millennium that the Ministry of Education started increasing the level of interest in ICT (Alajmi, 2011; Mohammed, 2014). Major developments have since taken place and the Kuwaiti government built an extensive IT infrastructure, in order to take advantage of the

tremendous growth in the use and adoption of emerging technologies by its citizens (Alkharang & Ghinea, 2013).

The strategy for ICT implementation in Kuwait's schools and higher education institutions is to ensure that the learning needs of all students are met through equitable access to appropriate learning and life-skill programmes. Most importantly, the objective is to transform the role of the teacher into that of a facilitator, who can direct the educational process through the use of technology. Conversely, students will be able to access educational content at any time or place, thus ushering in a new learning culture (Mohammed, 2014).

A UN report (UN-ESCWA, 2009) provided the rationale for Kuwait's adoption and implementation of ICT. Although one of the main reasons was to restructure information systems and make them less rigid, there were other motives. The Kuwaiti government sought to privatise specific government divisions (for example postal and Internet services), so as to encourage research and innovation in institutions and society overall. This would improve knowledge transfer between public sector organisations and educational institutions, automate the operations of various government bodies, modernise or restructure government services, and enable e-government and e-services.

2.6 Adoption of E-learning in the State of Kuwait

Kuwait has built a resilient IT infrastructure, which is not only stable, but also capable of supporting the adoption of new technologies and enabling e-commerce, e-government development and e-learning in schools and higher education institutions (Al-Fadhli, 2009; Alkharang & Ghinea, 2013; Al-Awidi & Aldhafeeri, 2017). The main objectives in the adoption and implementation of e-learning in Kuwait are to usher in a new model of teaching and learning as a replacement for traditional approaches. This is intended to improve teaching and learning through the dissemination of technical and scientific knowledge appropriate for the socio-cultural system in Kuwait. It is also anticipated to create a culture of self-learning, which will allow learners to use

their own personal learning environments (Mohammed, 2014). Although e-learning is a common feature of private universities and colleges, the cause for concern is that there is a lack of awareness of its potential in government-run institutions in Kuwait (Alkharang & Ghinea, 2013; Al-Awidi & Aldhafeeri, 2017). According to Alkharang and Ghinea (2013), the management in most public sector institutions are unaware of the strategic advantages of e-learning. Researchers are therefore calling for the formulation of strategies that will ensure the effective implementation of e-learning in the public sector and reduced resistance to the concept (Al-Doub, Goodwin & Al-Hunaiyyan, 2008; Alkharang & Ghinea, 2013).

The findings of Al-Doub, Goodwin and Al-Hunaiyyan's (2008) study show that culture and gender issues must be taken into account when implementing e-learning programmes. Students in higher education institutions in Kuwait were found to prefer Arabic language e-learning materials, in contrast to private institutions. These findings are still relevant today. Moreover, recent research suggests that Kuwait University and PAAET are required by law to apply rules of gender segregation (Alfelaij & Aldhafri, 2015). This is because Kuwait is a male-dominated society, where gender inequalities prevail (Alzuabi, 2016). These findings were upheld by a recent study (Al-Kandari, Al-Hunaiyyan & Alhajri, 2016), which examined the influence of culture on Instagram use by Kuwaiti higher education students. The above study found that this mobile application was more frequently accessed by male users, as the national culture considers that "the inherent personalities between men and women are vastly different", thus inhibiting women from disclosing contact information. However, these findings have been refuted by Alfelaij and Aldhafri (2015), who examined students' learning at PAAET and found that gender and cultural differences did not impact the acceptance and use of the Internet for learning, even though previous literature indicates that restrictive gender relations result in low ICT uptake by female users (Ogan, Ozakca & Groshek, 2007).

Another cultural element that is prevalent in Kuwait and other Arab nations is the pervasive practice of rote memorisation, whereby learners are vetted in a regurgitation model of schooling (Yusuff, 2014). Learning in this region is largely influenced by this historical and cultural attitude, which

impedes students' ability to solve problems, think critically or communicate effectively in languages other than Arabic (Mourtada, Salem & Alshaer, 2013). This is common among Arab students, who do not rely much on individualism or independence of opinion. Therefore, it is important for educational institutions to consider pedagogical models, instructional strategies and learning technologies when adopting e-learning. In Kuwait, e-learning projects have not taken into consideration any pedagogical model for learning, or raised any academic issues that students and teachers may encounter when engaging with a virtual environment (Al Ali, 2010; Alfelaij, 2016). This suggests that classrooms are teacher-centred and do not promote cognitive learning processes, such as enabling students to recall or recognise knowledge; understand and apply ideas and concepts; develop their working memory; self-evaluate, or prepare to become active problem-solvers and self-directed learners. As the focus of this study is on SGDV, the specific cognitive processes involved must also include selecting relevant material, mentally organising knowledge into meaningful units, and reflecting on prior experience and knowledge.

2.7 ICT at PAAET and the College of Basic Education

The rapid growth in the use of ICT in education and the constant rhetoric about technology revolutionising and significantly transforming the teaching/learning process (Kirkwood & Price, 2014) has led the Kuwaiti government to enthusiastically integrate education technologies, as a means of improving quality in education (Al-Doub, Goodwin & Al-Hunaiyyan, 2008; Al Sharija, 2012). The initiatives launched since 2002 to integrate ICT have caught the attention of researchers and they have started providing evidence of its impact on learning and teaching (Al-Doub, Goodwin & Al-Hunaiyyan, 2008; Alayyar, Fisser & Voogt, 2011; Alfelaij & Aldhafri, 2015).

Al-Ansari (2006), who examined Internet use by faculty staff at a higher education institution in Kuwait, found that these staff were reluctant to use ICT for teaching arts, social sciences, natural sciences and engineering subjects and were not even keen to receive training in this use. Meanwhile, Alayyar, Fisser and Voogt (2011), who examined technology integration in the preparation of science teachers at PAAET, found that the vast majority of teachers had access to

computer use in their department. Al-Daihani (2011) examined ICT use in government libraries attached to Kuwait University and PAAET and found that faculty staff were dissatisfied with the ICT courses on offer, especially for Library Information Science programmes. For example, there was a lack of adequate ICT resources and facilities, such as the relevant software and hardware. The above study also found that although staff possessed the required ICT skills, they lacked professional development and training. Moreover, the curriculum designed for ICT-related programmes had not been updated and there was a shortage of bilingual material in the libraries.

In short, there are two main reasons why Kuwaiti higher educational institutions, such as PAAET, are failing to successfully implement ICT; firstly, faculty members are adopting a technology-centred approach and giving preference to ICT instead of students. Secondly, higher educational institutions are not consulting students or faculty members before making decisions related to ICT adoption and integration (Al Ali, 2010).

2.8 International Perspectives of the Use of Video Technology in Teaching and Learning in Higher Education

The educational use of video technology in higher education is growing at a tremendous pace across all disciplines, whether in the humanities, social sciences, natural sciences, or technical and vocational programmes (Kaufman & Mohan, 2009; Barbier, Cevenini & Crawford, 2012). Like ICT, video technology is also claimed to transform how students learn online and in classroom settings. For example, video streaming or the availability of online instructional and informational videos on demand provides a tool for faculty staff to offer lively visual representations of different concepts, encouraging students to engage in classroom discussion and reflect on the material (Parfenovics & Fletcher, 2004; McKinney, 2011). It is also argued that the use of video technology allows for dynamic learning experiences in settings where learners are more likely to be engaged, attentive and thoughtful with regard to the material than is the case in a traditional classroom environment; for example, conventional face-to-face lectures and note-taking (McKeachie & Svinicki, 2006; Vickery, 2014).

Educational technology, such as video material and tools, can be used to tell visual stories. Digital storytelling is basically a modern form of telling traditional stories orally, using the voice of the narrator, videos and music (Kearney, 2011). This concept has developed with the simplicity and easy availability of video technology, but also includes storyboards, script-writing, production design and editing (Smeda, Dakich & Sharda, 2014). Digital storytelling is a constructivist approach to learning and students who create these stories can improve their understanding of how to organise educational content, develop critical thinking skills and achieve 21st century learning outcomes (Yang & Wu, 2012). Smeda, Dakich and Sharda (2014), who examined the pedagogical aspects of digital storytelling in an Australian school, found it to be an innovative pedagogical approach that can engage students in deep and meaningful learning, within exciting learning environments.

Video technology can be used to substantially support approaches to teaching practical skills and documenting students' practical performance (Frehner, Tulloch & Glaister, 2012). In most cases, e-learning environments where interactive videos or other visual aids are used can improve learners' academic performance, as well as enhancing student satisfaction, beyond the level observed in traditional classroom-based lectures (Zhang, Zhou, Briggs & Nunamaker, 2006). In other words, video technology can help enhance the quality of the learning experience, if effectively integrated by trained lecturers to support the relevant curricular goals (Greenberg & Zanetis, 2012).

Leonard (2015) examined why students use video in and outside the classroom by collecting data through surveys (1,673 undergraduate and postgraduate students) and conducting in-depth interviews with higher education students from North America, South America, Europe and Asia. The findings suggest that most respondents were accustomed to watching videos for their learning and as a means of better understanding concepts and specific topics. Students were of the opinion that resources are generally available online (for example, on YouTube or Google), but not in their university libraries. Nevertheless, the use of video in higher education has the potential to improve student learning and facilitate effective teaching practices (Barbier, Cevenini & Crawford, 2012).

According to Greenberg and Zanetis (2012), the impact of educational video on students enables them to relate to visual content, either through words or by stimulating thought. It also engages learners through visual content at any time and from anywhere. As a result, learners retain content through memorisation and reflection. The process of learning by creating videos is action-based and involves collaboration, interaction, reflection and feedback from peers and lecturers, leading to an enhanced learning experience. However, in order for video to serve as a productive part of this learning experience, it is important for lecturers to consider aspects that promote active learning, such as giving students more control over their learning (over content or the production process), using interactive elements and providing feedback (Brame, 2016). To sum up, the use of video technology can close the gap between an institution's internal and external environment, by bringing reality into the classroom (Jurich, 1999).

Nevertheless, while there are claims that technology can transform learning into a more dynamic and engaging experience, Selwyn (2011) cautions that "we cannot assume that technological change is an inevitable force for good education" (p.3). Neither should technology be used just because it is readily accessible. Selwyn also remarks that although educational technology is worth USD5 trillion, policy-makers, institutions and educators need to "limit the market's influence" (Selwyn, 2013), and "recognise that educational technologies do not always change things for the better" (Selwyn, 2011, p.9). Therefore, in order to counter the hype and optimism that typically surrounds educational technologies, Selwyn (2013) advocates distrusting such technologies, but at the same time taking advantage of the opportunities and choices that they offer.

2.9 Adoption of Video Technology at PAAET/the College of Basic Education/the Educational Technology Department

Video technology is used at PAAET and the College of Basic Education, especially for teaching student-teachers (pre-service teachers) how to make instructional videos (Al Ali, 2010). Television is an audio-visual medium, but video is a significant component, as it has a major impact on the user. Instructional Television (see Appendix O for course content) is a course taught at the

Department of Education Technology and consists of various modules, such as the Classification of Media; Concept and Philosophy of Multimedia; Interactive Modules and Their Importance in Education; Types of Instructional Television and Their Strategic Role and Effectiveness; the Design and Production of Instructional Videos/Television Programmes (Pre-production, Production and Post-production) and the Concept of Animation and Its Role in the Educational Process as well as training in the use of different tools and software, and in scripting (PAAET, 2015).

Higher education in film and video production does exist in Kuwait, but it is very marginal. It is worth noting here that in the UAE, a close neighbour to Kuwait, the government has taken the initiative to ensure that Zayed University, the Higher Colleges of Technology, the United Arab Emirates University, and the University of Sharjah offer film and courses in visual media, documentary and narrative video production (Yunis & Picherit-Duthler, 2011). The aim of these courses is to prepare film directors and producers.

Al Ali (2010), reflecting on her experience of the adoption of video technologies at PAAET, notes that educational technology was not widely accepted amongst faculty staff and there was consequently no consensus among them regarding its adoption, as staff were unsure of its purpose. There was some apprehension about its usefulness and doubts that it would work which suggests that teachers did not appreciate change. The main concern amongst them was that the transformation of student learning and the engagement of students in classrooms (where video technologies are used) would lead to an increase in their workload.

Students in the Educational Technology Department had in fact been creating videos, but there was virtually no research into how they were using these or other student-generated materials to enhance their learning. Studies from the UAE, however, have examined how students express their own understanding of an aspect of academic writing through videos (Engin, 2014). The above study used a flipped classroom model to try and understand how the students sampled created videos. This type of model represents a reversal of the traditional classroom, where students examine and understand the content/materials provided by lecturers outside formal classes (for instance, at

home, while the classroom is reserved for active engagement via collaborative learning (Butt, 2014). The 18 female Emirati students who took part in the above-mentioned research project were asked to design and create video tutorials on academic writing for the rest of the class by following the models and covering the topics provided by the researcher. A questionnaire was subsequently administered to the students to obtain feedback on the usefulness of creating these videos, the flipped approach and whether the videos enabled them to better understand the concepts. The questionnaire was followed by interviews with five students. The findings suggest that the students achieved greater comprehension and higher levels of cognitive processing and that the student-generated videos enhanced second-language English learning, for example through research, simplifying the content and focusing on accuracy. The study also found that the students preferred teacher mediation and feedback, rather than peer-explanation, suggesting that peer-produced video material was not reliable.

Further research is required in Kuwait to unravel the benefits of student-generated videos and provide evidence of the need to create multi-modal classrooms in higher education institutions. Programmes on video production, digitisation, editing, scripting, etc. could be the core elements of such a multi-modal learning model.

2.10 The Challenges that Accompany the Application of Video Technology

The successful adoption of video technologies in higher education is a complex process that requires time, the existence of committed faculty staff, who accept the value and legitimacy of pedagogical change, the appropriate integration of technology with curricula, and the engagement and support of the faculty and students (Greenberg & Zanetis, 2012).

Video technology and student-created videos are an important source of self-projection (Garrett-Dikkers, Whiteside & Lewis, 2013). Video technology can be used to portray the physical appearance of an individual, but it can equally be manipulated to increase their social presence

(Hassanein, Head & Ju, 2009). However, the use of videos in such cases may be perceived differently in different cultures (Tu & McIsaac, 2002). For instance, learners from an Arab cultural background may be unable to develop such a sense of social presence, as they tend to be reluctant to project themselves in online visual media (Hall & Herrington, 2010). Therefore, programmes on video technology, or courses on student-generated videos must be designed in a way that considers the cultural values of the learners.

One of the challenges that affect or prevent the adoption of video technology also includes using moving images and audio to teach a topic (Allam, 2007). Moreover, it is claimed that teachers who are used to traditional teaching approaches in higher education may find it difficult to teach effectively by integrating video due to lack of skills, experience, confidence, understanding or expertise (Guo, Kim, & Rubin, 2014).

Students in Kuwait who are educated using strategies such as rote memorisation tend to be reliant on the teacher as a source of instruction and knowledge. Therefore, SGDV represents a novel learning opportunity for learners, although it may appear unusual in the Kuwaiti context, given that it is a quite unlike rote learning. To make videos, students engage cognitively and meaningfully with the content and can regulate their learning and then generate ideas by interacting with the world. Learning is not simply a matter of rote memorisation; it is a constructive process that involves independent learning and actively seeking meaning from events.

2.11 Summary

This chapter has provided an overview of the State of Kuwait's historical background, elements of the national culture, and the strategies adopted to integrate ICT, particularly digital video technology into public higher education. However, there are barriers to the effective and successful integration of technology. Therefore, research, such as the current study, could contribute by informing practice. This would lead to a deeper understanding of the affordances of emerging technologies. It may also be concluded from this chapter that there is a paucity of research relating

to SGDV in Kuwait. However, the following chapter reviews the existing literature on student engagement in classrooms that integrate technology, such as SGDV, into learning activities on an international level.

Chapter 3: Literature Review

3.1 Introduction

This chapter reviews different aspects of the literature, in order to locate the research theoretically and academically. The scope of this study is to examine the pedagogical affordances of student-generated videos, which can be used for enhancing engagement, reflection and learning. This Literature Review will provide an overview of the use of ICT for learning and teaching in higher education, including the use of technology for authentic learning and some background on SGDV, such as its nature and use, together with recent research in the context of higher education. Finally, this chapter situates the theories of learning within the context of the current research and explores digital videos from a theoretical perspective, with a focus on student engagement and teacher-student interactions.

3.1.1 Terminology Used

Authentic learning: An instructional approach that enables learners to engage in their learning activities by searching, discussing and profoundly constructing concepts and relationships and connecting them with real-world issues, problems, and applications (Moodley & Aronstam, 2016).

Pedagogical affordances: The potential educational value and characteristics of a product.

Real-world application: The application of a course (lesson), product or service in everyday life, actual classroom time, or human situations.

Situated learning: Meaningful learning that only occurs (or is situated) in the activity and community in which it takes place, while un-situated learning refers to learning outside a community or context.

Student engagement: A student's eagerness, interest, need, and desire to actively participate in, and be successful in, the learning process.

Student reflection: The way in which students construct meaning from their experience, in order to gain new understanding.

Student-generated Digital Video (SGDV): Images captured, manipulated and stored in digital formats by students

Video: Images captured by a photographic device, camera, mobile phones or tablet. Digital video refers to images captured, manipulated and stored in digital formats

This Literature Review Chapter focuses on the use of ICT in higher education, as well as providing some background on SGDV. In a more general sense, it looks at the historical background to student engagement, with definitions and sub-types. More specifically, the pedagogical affordances of SGDV will be examined and theories of learning situated within the context of the current research. Finally, the chapter will be briefly summarised.

3.2 The Use of ICT in Higher Education

ICT refers to the use of technologies for communication, whether wired and wireless, and for the construction, distribution, storage and management of information. These technologies may include hardware and software. ICT is crucial for the knowledge economy, as it contributes to rapid industrial development and drives growth in productivity (Spiezia, 2012). In order to be economically competitive, students must be prepared in terms of skills in learning and innovation, so that their creativity, capacity to think critically and solve problems, communicate and collaborate can be developed (Barron & Darling-Hammond, 2008; Groff, 2013). These 21st century skills will enable students to become more flexible, adaptable and resourceful, becoming transformed from passive into autonomous learners. Moreover, they will acquire social and cross-cultural skills (Redecker, 2009; Redecker & Punie, 2010; Fuchs, Hauck & Müller-Hartmann, 2012; Keane, Keane & Blicblau, 2013; Evans, Muijs & Tomlinson, 2015). It is claimed that "learning in a digital era is fundamentally collaborative" and that 21st century skills are highly essential to support student engagement and make the successful transition from passive consumers of information to creative

producers or co-producers of content (Redecker, 2009, p.9). Therefore, these skills are required to help students grow into high performing individuals, who can compete globally.

Higher education is crucial for the development of an information or knowledge society (Waas, Hugé, Ceulemans, Lambrechts, Vandenabeele, Lozano & Wright, 2012). This has put pressure on institutions to improve their teaching and research functions, provide lifelong learning, and deliver flexible forms of education (Smidt & Sursok, 2011; Godwin-Jones, 2014). ICT is now significantly driving the higher education sector and many institutions have adopted e-learning technologies to shape and modify teaching and learning (Al-Adwan & Smedley, 2012; Bharuthram & Kies, 2013; Johnson, Adams Becker, Estrada & Freeman, 2015). There is a belief that the students of today are more exposed to technology, always connected, confident in the use of computers, empowered by an increase in the availability of mobile devices and endowed with the ability to intensively use social media (Ellison, Lampe & Steinfield, 2009). Moreover, students have expectations of approaches to learning at university (Littlejohn, Margaryan & Vojt, 2010). For instance, some may prefer technology-enhanced learning outside educational settings, while others may opt for formal situations or conventional methods of learning. Institutions are therefore faced with the quandary of not only keeping pace with the sharp increase in the use of ubiquitous technologies, but also meeting the demands of delivering traditional lectures. However, the key issue facing institutions is to encourage students who are increasingly using ICT for social purposes to gain an understanding of how technology can also be used to support their learning (Beetham, McGill & Littlejohn, 2009).

Technology adoption in higher education institutions is radically transforming teaching and learning practices and consequently, lecturers are compelled to make deliberate attempts to use these technologies appropriately for knowledge construction. Simultaneously, institutions are compelled to react to market forces and ongoing reforms, and to introduce new strategies. They are also under pressure to attract and retain students, while at the same time facing financial constraints on the expansion of their methods of academic provision, while at the same time providing flexible student-centred learning environments to learners. Initiatives have been set in motion within the

UK higher education sector to promote learner engagement, independence and autonomy. Moreover, the use of ICT by students to organise collaborative classroom activities (Lampe, Wohn, Vitak, Ellison & Wash, 2011) has kept pace with the application of social software for initiating, maintaining and enhancing social relationships (Wohn, Lampe, Ellison, Wash & Vitak, 2011).

The increasing application of ICT in higher education as a tool for everyday life has also led to the greater importance attached to information literacy skills. These refer to a set of skills for finding, assessing, managing and using information from a wide range of sources and for the purpose of problem-solving, decision-making and research (Johnson et al., 2015; OECD, 2015). The Royal Society (2012) defines digital literacy as "the basic skill or ability to use a computer confidently, safely and effectively" (p.17); for example, skills in using computer software applications, such as Microsoft Word, Excel spreadsheets, email and PowerPoint presentations. It also includes "the ability to create and edit images, audio and video, and the ability to use a web browser and internet search engines" (p.17). However, digital and information literacy complement each other and are not competing concepts (Cordell, 2013). Nevertheless, they are defined in different ways. Information literacy refers to the acquisition of data, facts or figures by knowledgeable individuals, who can identify when the information is needed and proceed to carefully classify, find, appraise and retrieve good quality, authentic and reliable data, in an attempt to solve a specific problem (Hobbs, 2006). Conversely, digital literacy is:

> *the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse, and synthesise digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process.* (Martin & Grudziecki, 2006, p.255)

It involves the ability to accumulate knowledge after evaluating content (Bawden, 2008). The main difference is that digital literacy also involves creating, sharing and managing information, as well as communication (for example, sending and receiving emails), teamwork and collaboration.

Research demonstrates that there is strong evidence of a key role for ICT in higher education (Robinson, 2008; Komba, 2009; Attwell & Hughes, 2010; Arenas, 2015; Karamti, 2016). This suggests that ICT integration in higher education is informed by enquiry and evidence, rather than declarations and exaggeration. Although ICT integration into higher education is complex (for example, with regard to the beliefs and practices of lecturers and the achievement of student outcomes) (Byungura, Hansson, Masengesho & Karunaratne, 2016; Omariba, Ayot & Ondigi, 2016), the literature suggests that several benefits support its use. These include the potential to facilitate the learning activities of culturally diverse students by enhancing greater access to knowledge (Arenas, 2015), as in the case of students with learning difficulties (for example, dyslexia and autism), or to provide access to learners through open and distance education (Robinson, 2008; Komba, 2009). Research studies that explore the benefits of educational technologies claim that they can contribute to student attainment (Karamti, 2016) and act as a catalyst for change, with the assertion that students are 'appropriating' technology and using it in innovative ways by sharing ideas and artefacts and by developing links with other members of the community (Attwell & Hughes, 2010; Pavel, Fruth & Neacsu, 2015) and actively engage in learning from each other (for example, students from lecturers, lecturers from students, and students from students). Alternatively, the adoption of ICT in higher education has changed the way in which students use technology to access information and as a cognitive tool. Evidence also indicates that these benefits depend on the pedagogical practices of the lecturers (Virtanen, Myllärniemi & Wallander, 2012; Akbar, 2016); for example, the way in which they choose and organise ICT resources, and how they incorporate technology within and beyond the classroom.

In higher education, educators and policy-makers are taking a fresh look at student engagement, as the widespread implementation of technology is having a significant impact on student learning (Cole, 2009). This is because technology not only gives learners access to relevant subject matter and experts in those areas, it is also a relevant tool for engaged learning. The research also suggests an increased focus on the use of technology to support student engagement in higher education (Kearney & Schuck, 2006; Cheng & Chau, 2009; Willmot, Bramhall & Radley, 2012; Ryan, 2013), such

as through the use of wikis (Cole, 2009); the use of technology to engage students by means of providing feedback (Hepplestone, Holden, Irwin, Parkin & Thorpe, 2011); the use of mobile apps to increase engagement and facilitate language learning (Clifford, Merschel & Munné, 2013; Tan & Teo, 2015), and the use of Twitter (Junco, Heiberger & Loken, 2011). Institutions can create programmes that help promote student engagement and thereby increase the chances that students will achieve the desired outcomes of a college education (Kuh, 2009).

The literature, however, reveals that although technology can make learning more convenient and supposedly enables self-paced learning, there is little evidence to support the claim that the use of technologies can indeed improve children's learning outcomes. Wellington (2004) argues that there are "inherent difficulties in evaluating the effect of any learning intervention and attributing cause-effect relationships in education" (p.33). Student achievement is not simply about providing or gaining access to technology (Clarke & Luger, 2007); it involves educational institutions with a shared and school-wide vision of ICT (Tondeur, Van Keer, Van Braak & Valcke, 2008). Planning and providing support, advanced training and continuous professional development, as well as the use of collaborative approaches when defining policies related to technology, are the key to successful ICT integration (Tondeur et al., 2008). According to Selwyn (2003), student learning can only be improved if there is whole-sale restructuring of higher education systems, and if lecturers realistically embed technology within existing institutional practices and accept the reality that students use technology inconsistently for learning.

3.3 Background on Student-Generated Digital Video (SGDV)

3.3.1 Student-Generated Digital Videos (SGDVs)

Videos created by students using digital tools, including cameras, computers and software - such as Windows Movie Maker, Animoto, Route Generator and Pixton - are referred to as student-generated digital videos (SGDVs). These digital videos or objects generated by students act as powerful cognitive tools, which learners use to create knowledge by meaningfully engaging with

the world outside the classroom (Kearney & Schuck, 2006). Through the production of digital videos, students may become deeply engaged in finding ways to communicate a story through visual media (Hurst, 2014). According to Kearney and Schuck (2006), SGDVs may be used in three different ways: for the purpose of communication, or to express ideas such as video reports (Dickinson & Summers, 2010; Norton & Hathaway, 2010); for observation or to analyse teaching and learning (Bell, Juersivich, Hammond & Bell, 2012; Martin & Siry, 2012), and as a metacognitive tool for creating digital stories (Cheung & Chau, 2009; Kearney, 2011). Alternatively, they can be used as an instructional tool that allows for possible knowledge construction.

The advances in digital video technology and especially the development of editing software have made video projects inexpensive and easier to execute than ever. Cameras have also become more lightweight and affordable. They are increasingly user-friendly and generally come with free, time-efficient video-editing software (for example, Microsoft and Apple Macintosh operating systems). The Internet has made it easy for anyone to upload videos and diffuse, send or share clips online; for example, on social networking sites such as YouTube, Instagram, Myspace, Facebook, Viber, WhatsApp, Skype, MSN and Yahoo. Students may also use video-based blogs or vlogs to post or upload their videos. Carney and Foss (2008) reviewed some of the more widely-used free video-editing software (see Appendix N for more information on Microsoft's Movie Maker and Apple's iMovie) and found it easily feel within the parameters of their study. This suggests that students can use these programs to generate videos effortlessly by breaking the video into clips and then resizing, adding transitions or visual effects (to fade the image, add hues, change contrast, etc.), and including audio-effects, such as 'rumble', 'alarm bell', and 'gun shots'. Moreover, students do not need any previous experience of using software and what is important is that tasks can be completed within a short period of time (see Appendix N, as noted above).

3.3.2 Research Illustrating the Value of Digital Video

The value of digital video tasks and the convergence of digital video and cutting-edge technologies, such as the ready availability of digital cameras, easy-to-use digital-editing software and other

digital resources, have created new opportunities for the utilisation of digital video in teaching and learning (O'Donoghue, 2014). As a consequence of this development, educators have been encouraged to integrate digital video tasks into the curriculum. Furthermore, this has attracted researchers and practitioners associated with ICT in education to investigate this kind of learning (Schuck & Kearney, 2004; Kearney & Schuck, 2006; Cheng & Chau, 2009; Theodosakis, 2009; Halter & Levin, 2014).

The act of creating videos engages those students, who may not be intellectually motivated, or who label themselves as dynamic, ambitious and successful by traditional measures (Vickery, 2014). Students are attracted to making videos if the latter are user-friendly, facilitate learner control and have features such as easy-to-use-editing and accessible video-editing software (Schuck & Kearney, 2006a). However, one of the reasons why videos appeal to students is because the target audience is perceived to be peers and classmates, rather than teachers (Gold, Oonk, Smith, Boykoff, Osnes & Sullivan, 2015). Moreover, students who are academically weak may feel that they can contribute the knowledge and skills they have developed outside classroom, such as skills in technology use or creativity (Gold et al., 2015).

SGDVs are significant because by their very nature, they help promote authentic learning (Kearney & Schuck, 2006). On the other hand, in the traditional classroom, with its emphasis on rote-memorisation, students may not be able to make use of real tools with real purposes to make real products. Kearney and Schuck (2006) claim that when making videos, students feel empowered and autonomous, as they are free to experiment. Additionally, they often find it exciting to make videos and regard these tasks as intensely appropriate and highly contextual (Kearney & Schuck, 2006). They may feel that they are able to share ideas through dialogue, express themselves freely, or obtain feedback from peers (Schuck & Kearney, 2006a; Jordan, 2012; Wegerif, 2015).

The positive aspects of student-generated video consist of enabling students to learn and then apply what they have learned (deeper learning), as well as encouraging them to engage in active learning, where they learn by reflecting on their experience; participate, and take ownership of

their ability to acquire knowledge (Greene & Crespi, 2012; Willmot, Bramhall & Radley, 2012). Active learning, which is based on constructivism and social constructivism, involves exploring, thinking, interacting, reflecting, problem-solving, establishing, and carrying out tasks or activities that can lead to meaningful learning. These outcomes can then be assessed by teachers who promote the effective transfer of learning (for example, through the use of stimuli, models, etc.) (Barkeley, 2010). This suggests that interaction is the key to motivating and engaging students, so that they actively learn when involved in the creation of videos.

Previous studies have shown that researchers and practitioners have gained an understanding of suitable ways for instructors and learners to interact, teach, and learn through learner-generated digital video projects (Schuck & Kearney, 2004; Theodosakis, 2009). These studies seem to suggest that teachers facilitate the creation of digital videos, so that students can watch and analyse them to enhance their understanding of the content in class. In other words, teachers enable students to discover knowledge for themselves. However, in the process, teachers may also enhance their own pedagogical practice and performance. It is not surprising that several education researchers (for example, Schuck & Kearney 2004; Shewbridge & Berge, 2004) emphasise the value of digital video projects. They suggest that the incorporation of digital videos can provide students with authentic learning experiences and significant outcomes, including a greater sense of student ownership and autonomy, and the encouragement of meaningful interactions and roles (Kearney & Schuck, 2006). Other outcomes include developing an understanding of the subject content, increasing student engagement and motivation, and developing skills in film-making and digital literacy (Schuck &, Kearney, 2004). Although previous studies suggest that sustained application of SGDV could lead to changes in pedagogy, heightened learner autonomy and improved educational outcomes, with deeper reflection and engagement (Henderson et al., 2010), more research is required to investigate its pedagogical affordances.

Carney and Foss (2008) examined how college students on a short intensive English programme used video projects. Their study took place in Japan and the students, divided into two groups,

participated in two different video projects. The tools used were a digital video camera and computer. In the first project, four pairs of students produced four short films, while the second group produced one long film. In the first project, there was no student-teacher interaction, because the teacher's role was limited. However, the students had the opportunity to learn more about various aspects of film-making on their own, while also working on their language skills. This suggests that their learning was aligned with principles of constructivism. In the second project, the teachers played a different role and assisted the students with aspects such as pronunciation, while the learners were involved in the whole cycle of planning, writing and editing a video. This allowed them to work as a team, learn English (by working on their diction, modulation, body language, etc.), seek advice, and receive immediate and consistent feedback from their instructor. It is claimed that instructor feedback is a critical element allowing students to review their video and edit it, thus giving them the opportunity to correct any mistakes (Kearney, 2011). Carney and Foss (2008) are of the opinion that this second project was an effective way of making a video, because there was accountability and it was a student-centred approach. Their study concluded that the students were able to acquire problem-solving and higher-order thinking skills, which were essential for creating the video. It could be argued here that the supportive atmosphere and student-teacher interaction motivated the students to create videos and learn independently.

Meanwhile, Di Palma (2009) developed a learning design to support learners as they made a digital video for the purpose of gaining geographical knowledge. The experiment involved 28 students, with the objective of using films to promote learning. The above author appeared to assume that students should make films to enhance their learning in geography subjects. It is an assumption that may have been founded on the belief that videos and films can visually describe environments. However, traditional textbooks were also included to compare the efficiency of the two media, but with the above author arguing that textbooks were never meant to foster creativity. Therefore, the film was planned to fulfil this objective, allowing the students to vigorously apply their geographical knowledge to solve technical problems (location, screenplay, sets, etc.). This suggests that videos

are effective tools for active learning and the process of film-making can motivate students to think creatively.

Similarly, Greene and Crespi (2012) investigated the perceived value of videos created by college students for enhancing the student learning experience. The above study examined two video projects on two different business school courses at Northeastern University in the US. Undergraduate students from the University's Advertising Faculty and School of Business took part in the study. Two different business courses were examined, namely Marketing and Accounting. In both cases, the students created videos as part of their assignment. The qualitative and descriptive data gathered suggest that the students not only appreciated their experiences of creating videos, but also found them relevant and entertaining. The authors also reported that it helped reinforce concepts that had been presented to the students in class.

The findings from the studies described above show that well-made SGDV projects can increase student engagement and motivation, as well as encouraging self-directed learning (thus altering student roles), besides improving both traditional and new literacy skills. Nevertheless, Willis (2009) claims that videos cannot undermine or replace reading and writing, and asserts that there is a lack of rigour in academic video production. The above author further argues that although many students have the technical ability to create videos, very few have the "aesthetic sensibilities to create interesting works" (p.107). This gap between technique and aesthetics suggests that the majority of students are not critically innovative and therefore, teachers and educational institutions need to play a greater role in enhancing their creativity and innovative skills.

3.3.3 Pedagogical Frameworks for Learning with Digital Video

There is a lack of formalised pedagogical frameworks to help lecturers achieve valuable outcomes from digital video tasks, such as activities designed to foster the development of new literacy skills, authentic learning experiences, student-centred learning, independent learning, and meaningful interaction. Kearney, Jones & Roberts (2012) recommend that:

> *Expert teaching and learning practices with DV tasks need to be documented in a consistent and reusable form so that they can be adapted to different learning environments. (p.169)*

Kearney, Jones & Roberts (2012) have identified this form of documentation as a pedagogical framework or learning design for digital video tasks, which accurately describes the order in which interactions and events support students' learning experiences. Recently, there has been some progress in the development and use of pedagogical frameworks for SGDV projects. A growing number of researchers are showing considerable enthusiasm for developing learning designs to support learning through digital video tasks; for example, Schuck and Kearney (2004), Kearney (2009, 2012), Kiili, Kauppinen and Laurinen (2013) and O'Donoghue (2014).

Two of the pioneers in this area are Schuck and Kearney (2004), who collected data at various stages of the production process for digital video projects, namely developing, scripting, preparation for filming, filming and editing, in order to develop a pedagogical framework. Kearney (2012) investigated the efficacy of learner-generated, 'Ideas Video' tasks in pre-service teacher education. The study explored the experiences of student teachers and their lecturers interacting with this video genre. The findings revealed that this immersive task, which modelled design-based pedagogy involving student teachers as film-makers, leveraged rich outcomes in relation to the trainees' professional knowledge, beliefs and competency development. The above study was constructed on the existing literature and supports the significant role of learner-generated digital video projects in teacher-training. Kearney's learning design involves various stages of video creation, namely pre-production (the development of ideas, researching the topic, creating a storyboard and script, and media preparation), production (cinematography, audio-recording and editing), post-production (discussion, sharing perspectives and refining the video), distribution (presentation, wider dissemination and reflection on the learning process) (Kearney, 2012).

Meanwhile, Kiili, Kauppinen and Laurinen (2013) used the multi-literacy framework initially developed by the New London Group (1996). The students in the above study were able to learn about multi-modal literacy practices by creating digital videos. O'Donoghue (2014) established that

videos created by students help them to achieve their desired learning goals and also actively engage them in the entire production process. The five-stage model integrates content analysis (researching and selecting the video theme and topic), pre-production (decisions on the shooting, location, script and storyboard, and familiarisation with equipment), execution (rehearsal, cinematography, recording and editing), presentation (viewing and discussing the video), and reflection (on content, the production approach, teaching and learning). The model proposed by O'Donoghue (2014) suggests that while teachers use didactic and constructivist approaches, which involve a combination of watching, listening and demonstration (modelling), students work in groups, engage in group discussion, use personal reflection, and learn actively. The educational video production framework also stresses that learning needs must be established for video production, and that teachers in the role of facilitator or mediator must engage their students in constant consultation, with feedback being provided. The basic concepts of this framework were adapted from the principles of pedagogic video design, developed by Koumi (2006) and Schwartz and Hartmann (2007).

Koumi's (2006) study, which explored the potential of video as an e-learning tool, suggests that it supports cognitive learning and skills development, provides experiences that may not be possible when using other media, and fosters a sense of ownership, along with positive attitudes and motivation. It is consequently held that where teachers show exemplar videos or modelling, they access a unique means of assisting learners in developing their skills (Koumi, 2006). Digital video has the capacity, not only to engage learners' fascination with the subject, but also to provoke them "to get up and do things" (p.4). O'Donoghue's work was guided by Koumi, who found that digital video adds 'experiential value'. Therefore, O'Donoghue may have adopted and adapted Koumi's pedagogic video design principles, in the belief that videos promote active learning. As a result, O'Donoghue could have been prompted to engage with constructivist learning principles, connecting these concepts with the making of videos.

Schwartz and Hartmann (2007) claim that learners are engaged in creating videos through different forms of learning, such as "seeing, doing, engaging and saying" (p.7), which the authors refer to as 'modes of engagement'. 'Seeing' indicates observing things indirectly and interacting with a video, while 'doing' implies the use of skills and adopting an *attitude* of creating a video, and 'engaging' learners is the task of teachers who motivate them by 'creating emotional reactions' (p.11). Students who create videos are encouraged to 'spot the difference' or 'find the faults' (p.11). Finally, 'saying' refers to understanding the video and describing what it communicates. In the process, students learn from real-life experiences, as well as from experts (teachers and peers). Koumi (2006) has defined similar classifications.

When exploring the theoretical origins of O'Donoghue's work, the present researcher found that *Writing for corporate video* (Eustace, 1990) appeared to be one of the author's main influences. According to Eustace (1990), a video is "an amalgamation of elements" (p.11), which includes pictures and audio-material. Eustace focuses on script and content, thus concluding that all video material, whether a corporate video or television programme, will only be successful, if the script is outstanding. This suggests that much of the responsibility for the success of a video rests with the scriptwriter, who will in any case be considered knowledgeable about the medium and possess critical thinking and recollection skills.

O'Donoghue has additionally considered the significance of a scriptwriter's knowledge and skills for the educational context. Therefore, the first stage in this framework is devoted to content analysis, which includes the video pitch. This is used by the students to document the video concept or its theme and general plans; for example, the title, projected audience, method or style, outcomes, and any other problems that might be encountered during the process of making the video (O'Donoghue, 2014). Moreover, in the second stage of the framework (pre-production), O'Donoghue suggests that students should discuss their video pitch with peers and teachers, obtain feedback, and become acquainted with the camera equipment and the editing software that they plan to use, before refining their initial plans, including a script breakdown and logical sequence of

all the intended approaches. Drawing inspiration from Eustace, O'Donoghue is strong on the synergy between script and images; appearing to support Eustace's view that a video can only be effective, if there is a correct balance between all elements of the production process.

3.3.3.1 The Role of the Lecturer in a Digital Video Project

The role of the lecturer in a digital video project is to inspire and engage the students and produce authentic learning opportunities for them (Herrington & Kervin, 2007). Lecturers therefore play a key role in the execution of digital video projects, as they foster complex classroom interaction, and encourage student autonomy and ownership (Kearney & Schuck, 2006). Lecturers therefore need to incorporate key elements of authentic teaching, which include facilitating knowledge construction (establishing, creating, interpreting, clarifying and assessing information to convert it into knowledge), promoting disciplined enquiry (gathering information scientifically, conducting self-exploration and engaging in complex communication), and value beyond school (producing knowledge and learning related to students' real world issues) (Herrington & Kervin, 2007). When using authentic approaches, lecturers must facilitate the creation of collaborative communities, in which learning takes place through enquiry (Hakkarainen, Paavola & Seitamaa-Hakkarainen, 2013).

Aside from the above, lecturers have the significant task of exposing students to knowledge practices in all academic disciplines. However, students involved in digital video projects are not given directions by instructors, but allowed to take responsibility for the entire production. In other words, the technology and the related activities provide an authentic learning experience, which allows students to critically analyse content, evaluate the work carried out (self-regulated learning), collaborate, obtain feedback, reflect and make improvements, if required (Hubbard, 2012). Collaboration and social interaction mean that students achieve mutual understanding through shared values and goals, or else find common ground (Soslau, 2015). Although, students can create their own content in conjunction with their peers, lecturers need to understand their needs, interact with them and then guide them, explaining how to use technology (Lawrence, McNeal & Yildiz, 2009). In other words, the students will have a zone of proximal development (ZPD); an area

where they can collaborate, learn and develop distinct skills, with the assistance of peers and lecturers. In this case, scaffolding techniques, such as guiding students through each step of the video-making process is adopted by lecturers to facilitate the learning process. It is claimed that the motivational outcomes of scaffolding may include greater self-efficacy and engagement (Alias, 2012; Moos & Azevedo, 2008). The lecturer is therefore the critical ingredient in the whole process of authentic learning, teaching and assessment, but with a teaching style based on a constructivist or more student-centred approach: "Constructivist pedagogy doesn't relieve the teacher of the responsibility to teach; it expands the definition of teaching. Teaching is not delivering content. It is the act of designing experiences that enable learning" (Lattuca, 2006, p.356).

The lecturer's role in a digital video project is that of an enabler. This will vary, especially when there are different phases involved. The main phases of executing a video project consist of development, pre-production, production and post-production (Nikitina, 2010; O'Donoghue, 2014). For example, lecturers act as mediators in the development and pre-production phase by setting learning goals and outlining learning outcomes. Students are then involved in the pre-production, production and post-production phases of the video, while developing narrative, writing dialogue, shooting the video, presenting the final product, reflecting on their work, and obtaining feedback. In the post-production stage, lecturers assess the videos by comparing the completed work with the students' initial ideas. In other words, the lecturers must gauge how well the students have been able to execute their initial intentions (plans) and whether the approaches adopted were appropriate. The function of the lecturer is thus not to lecture, but to facilitate, motivate or engage learners by contributing pedagogical knowledge and advising on appropriate activities (for example, sound quality, camera angles, video sequences, editing), in order to meet the digital video learning goals (O'Donoghue, 2014).

The significance of the lectures as an educational technique has been questioned in the literature. For instance, Bligh (2000) carried out a meta-analysis of studies and subsequently claimed that most classroom discourse is no substitute for interaction and therefore not ideal for encouraging

thought, or for changing students' attitudes and values. On the other hand, the role of the lecturer is to organise and manage knowledge, instead of merely transmitting information. In other words, the ideal aim is to help students discover key concepts, principles or ideas. This suggests that the lecturer should be able to guide students towards taking responsibility for identifying, evaluating, sharing and applying knowledge, which means that the responsibility of the lecturer is to model expert thinking or provide examples of how to approach a topic or problem (McKeachie & Svinicki, 2006; Zhou, Xu & Martinovic, 2016). However, one issue facing lecturers in collaborative learning environments is the failure to interpret the large number of complex interactions that can take place simultaneously (Stahl, 2002). While acknowledging this limitation, the present research will also attempt to address the problem. However, one cannot generalise by assuming that all teachers face challenges when interpreting interactions or analysing students' messages. The following sections focus on student engagement, but also discuss the vital role played by teachers in the motivation and engagement of their students.

3.4 The Pedagogical Affordances of Student-Generated Digital Videos (SGDVs)

3.4.1 The Philosophy of Affordances

Digital video capturing, which involves the use of a digital video recorder (for example, a camcorder, Webcam or mobile phone) to convert analogue video signals to digital video, is not a difficult task (Kilburn, 2014). However, digital video is a powerful tool, with many affordances that extend its usefulness beyond merely transmitting information. It is currently being widely used in education and its affordances, as support for a particular pedagogical approach, need to be explored and tested before selecting and considering its impact on learning. The term 'affordance', coined by Gibson (1977), is used to explain the properties of objects that an individual can use, but only if he/she has the capability to use them. Gibson's theory is that one does not perceive objects, but rather their usability (Gibson, 1977). According to Gibson's interpretation, affordances are entirely objective entities, independent of socially contingent variables, such as the individual's cultural

traits, perceptions or prior knowledge. They exist independently of the user, although they are related closely to what Gibson terms the user's 'action capability'. However, the definition of this term has been elaborated on to some extent by Norman (1988), who refers to "affordance" as "the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used… Affordances provide strong clues to the operations of things" (p.9). Thus, affordances are "the possible actions a person can perform upon an object" (Norman, 1988, p.228) or the usefulness of any object and how this object should be used by any individual. Putnam further redefines the affordances of technology in a broader sense, stating that the affordance of any technology is the means by which it can support certain activities or things (Putnam, 2006). Additionally, Kennewell (2001) refers to the attributes of a technology as affordances or opportunities and constraints. The author considers opportunities and constraints as complementary, and sees constraint as an essential part of supporting learning; for example, it reduces the cognitive complexity of the activities that students are involved in when creating digital videos.

McLoughlin and Lee (2007) propose four classes of innovative affordances connected with learning: connectivity and social relationships, gathering and imparting information collaboratively, creation of substance, and knowledge aggregation and content modification. However, in order to take full advantage of the affordances of technology, the authors argue that careful planning and rigorous "understanding of the dynamics of these affordances" is necessary (2007, p.4). 'Dynamic affordance' refers to "what becomes possible when knowledge is used as a tool in the context of situated activity" (Cook & Brown, 1999, p.392). For the purpose of this research, affordances refer to the usefulness of SGDV and how this technology should be used by students or integrated by lecturers to support student engagement.

3.4.2 Rationale for the Use of Digital Videos/SGDV in Various Disciplines

Student-generated videos are an active learning method that has been used productively in various disciplines and settings in teacher education (Kearney, 2012; Halter & Levin, 2014); language

learning (Carney & Foss, 2008); social studies (Di Palma, 2009; Hammond & Ferster, 2009; Lukinbeal & Craine 2009); biology (Harrison-Pitaniello 2013); aerospace engineering (Khalid, 2014); thermodynamics (a branch of physics) (Abulencia, Silverstein & Vigeant, 2014); chemistry (Benedict & Pence, 2012); marketing and accounting (Greene & Crespi, 2012); climate and environmental change education (Gold et al., 2015); science (Hoban, Nielsen & Carceller, 2010), and neurotransmission (Jarvinen & Jarvinen, 2012). However, only some of the above studies have produced positive outcomes; for instance, Wade and Courtney (2014), who evaluated the efficacy of student-generated videos for gains in content learning in science, and Rooney-Varga, Brisk, Adams, Shuldman and Rath (2014), who found that creating videos provided students involved in a climate change education project with flexibility and control over their learning.

The rationale for lecturers using SGDV was not only its usefulness as a teaching tool, but also a personal interest in producing movies and motivating students to become active and independent learners through participation in group work and the infusion of creativity (Kearney & Schuck, 2005). It could be argued that digital video is appealing for learners and so lecturers may wish to harness this potential to engage them, even if they are initially reluctant learners. Moreover, lecturers can use student-generated videos to conduct authentic assessments of learners. Meanwhile, the rationale for students generating videos was the fact that they found this to be an established medium of communication and self-expression (Spires, Hervey, Morris & Stelpflug, 2012). Digital video is tempting and attractive to most students, who may find its use to be an exhilarating experience. They can also acquire new digital literacy skills by participating in digital video tasks.

To sum up, the rationale for lecturers and students using student-generated videos was that these classroom activities promote active engagement, which in turn reinforces learning. Moreover, student-generated videos are learner-centred and encourage students to reflect on what and how they are learning.

3.4.3 Investigation of the Pedagogical Affordances of Student-Generated Digital Video (SGDV)

The literature suggests that several researchers have investigated SGDV by focusing on the affordances of digital video for learning (Schuck & Kearney, 2004; Kearney & Schuck, 2006; Bull, Park, Searson, Thompson, Mishra, Koehler & Knezek, 2007; Dumova, 2008; Henderson et al., 2010; Hafner & Miller, 2011; Halter & Levin, 2014). An investigation of the pedagogical affordances of a technology, such as SGDV, includes evaluating whether it is appropriate for collaboration, participation, practice and creativity, as well as for creating content and constructing knowledge (McLoughlin & Lee, 2007).

SGDV allows students to collaboratively produce objects and share ideas, resources and practices with others for joint reflection, analysis and discussion (Zahn, Krauskopf, Hesse & Pea, 2010). Besides, it is also claimed that the technology supports interaction and enables a cohesive learning community to be built (Kearney & Schuck, 2006; Halter & Levin, 2014). The affordances of digital video projects relating to participation and practice comprise the active and constructive involvement of students in learning activities (as opposed to passivity), thus leading to the development of digital literacies (Schuck & Kearney, 2004; Zahn et al., 2010); enabling learners to enact and develop their own identity (Hughes & Robertson, 2010), and transforming practice, such as situated practice, whereby teachers reconsider their teaching strategies and approaches by keeping up with students' learning styles (Hughes & Robertson, 2010).

Henderson et al. (2010) examined the use of digital video production by Australian school pupils and found that learning outcomes from video projects included the development of reading, speaking and writing skills, as well as teamwork and organisational skills. The use of student-generated videos in the above study encouraged the learners to engage intensively in video production, which involved real-world activities; for example, replaying images, editing, creating audio-visual effects, and ensuring re-usability. The pedagogical affordances of digital video allowed the students to make inferences from the imagery, using their background knowledge and prior

experience. These results seemed to suggest that pedagogy was shifting towards a more student-centred approach.

Aside from the above, Hafner and Miller (2011) reported that digital video projects are perceived by students to be unique, entertaining, stimulating and meaningful. In their investigation, the students were found to be deeply involved in digital video projects, which suggests that they were motivated and sought to take control of their learning. The study findings also indicate that students were able to learn independently. This was evident in the manner in which they planned and created their videos, searched for online information, and shared each other's work, supporting all members of the group. In addition, these findings corroborate those produced by Henderson et al. (2010) and the views of Evans, Muijs and Tomlinson (2015), namely that technologies such as digital videos can actively engage students in their learning by co-constructing knowledge through collaboration, teamwork (for example by sharing ideas and thinking) and self-reflection.

Similarly, Halter and Levin (2014) investigated the impact of short digital videos created by university students in their final class of a teacher education programme in southern California. The project involved the trainee teachers creating individual digital videos, which described their own growth as teachers. It consisted of a major class project in one of their final courses before graduating. The resulting videos were reviewed by peers and the class instructors, with findings to suggest that creating these digital videos served reflective, communicative and memorial functions for the students.

Overall, the affordances relate to knowledge construction or the creation of content (Bull et al., 2007; Dumova, 2008), thereby encouraging "multimodal learning and multiple literacies" (Hughes & Robertson, 2010; p.25); supporting new practices, such as creating and validating knowledge through visual images or information, and providing simple mechanisms to manipulate and reuse digital content (Marshall & Shipman, 2013).

3.4.4 The Challenges of Working with SDGV/Digital Video

Notwithstanding its many benefits, however, SGDV also presents some challenges for students and teachers. In spite of the affordances, for example, learning with digital video requires effective pedagogy (Bell & Bull, 2010). If digital videos are to be integrated within the curriculum, the video content should be appropriate and may need to be closely matched to instructional objectives. Without the guidance of teachers, students may not always be able to comprehend the video content. Therefore, teachers, as facilitators, play a key role by harnessing the pedagogical affordances of digital video in their teaching practices.

One of the challenges facing students consists of time constraints, as they may find it difficult to research content, write scripts, record audio- or video material and bring all these elements together to create a final product (Graziano, 2012). Research also suggests that many students feel uncomfortable about commenting on other students' work (Reeves, Caglayan & Torr, 2017). Other challenges include managing video-production equipment, and coordinating the logistics of video projects (Hutchison, 2012).

Students and lecturers also need to remain aware of and respect the copyright and intellectual property of other video producers (Kearney, 2011). This is because students may be tempted to seek out images, audio-content, music, or films online for inclusion in their videos. Lecturers must therefore guide students and impose restrictions on the type of content they use (Kearney, 2011). Meanwhile, SGDV tasks are characteristically open-ended, unclear and therefore more challenging for students who are only familiar with traditional classroom tasks. Therefore, there is a need for a generic learning design to facilitate the accomplishment of SGDV projects (Kearney et al., 2012).

3.5 Student Engagement: Historical Background, Definitions and Sub-types

Academics have shown considerable interest in student engagement since the mid-1990s, although the concept had its beginnings in the work of Alexander Astin, Professor of Higher Education and

Organisational Change at the University of California. He originally referred to student engagement as 'involvement' during the 1980s (Trowler, 2010; Williams & Whiting, 2016). His main interest in engagement was to some extent driven by the desire to improve student achievement (Kuh, 2009; Reschly & Christenson, 2012). Historically, student engagement has tended to concentrate on attempting to enhance learning outcomes and positive behaviour; retaining disengaged learners by increasing the time dedicated to learning and promoting a willingness to learn through participation (Finn, 1989; Jones, 2008; Krause & Armitage, 2014). The concept of time in relation to tasks and participation has been categorised as 'behavioural engagement' (Spanjers, Burns & Wagner, 2008). Meanwhile, Skinner and Belmont (1993) have further developed Finn's categorisation of student engagement by including cognitive and emotional engagement. More recently, studies have not only discovered relationships between technology use and engagement, but have also observed that it helps form learning communities (Junco, Heiberger & Loken, 2011; Ashwin & McVitty, 2015).

Student engagement can be interpreted in a number of ways, which has led some researchers to argue that it is a vague concept (Trowler, 2014; Zepke, 2014). There is no doubt that most current definitions of student engagement are clearly linked to tasks and activities associated with learning. Moreover, the lack of consensus over a comprehensive definition has resulted in a number of sub-types of the concept; for instance, psychological, academic, cognitive, intellectual, institutional, emotional, behavioural and social. Originally, student engagement was viewed as a static concept and identified purely in terms of the behavioural dimension (Klemencic & Chirikov, 2015). Currently, there is increasing agreement that student engagement can be conceptualised as a multi-dimensional construct, which includes two or three dimensions as indicators of student engagement (Yonezawa, Jones & Joselowsky, 2009; Reschly & Christenson, 2012; Veiga, 2016).

One of the earliest definitions of the above-mentioned phenomenon was formulated by Astin (1984), who referred to student engagement as "the amount of physical and psychological energy

that the student devotes to the academic experience" (p.297). More specifically, Anderson, Christenson, Sinclair and Lehr (2004) define student engagement as involving:

> *…positive student behaviors, such as attendance, paying attention, and participation in class, as well as the psychological experience of identification with school and feeling that one is cared for, respected, and part of the school environment. (p.97)*

This definition leans more towards behavioural engagement, but has strands of emotional and psychological engagement. According to Zepke (2014), student engagement can be either narrowly defined as behavioural, or holistically as a socio-cultural system, in which learners not only engage in learning in their classrooms, but also through social interaction with the wider community. The narrow or constricted view is considered to be the mainstream view of student engagement, which advocates quality learning and teaching and positive student attainment. Conversely, the holistic view of student engagement promotes active student participation in class; student-teacher and student-student interactions; collaborative group work and learning, and flexible learning. The holistic view is upheld by recent researchers, who state that the teacher-student partnership is a catalyst for student engagement (Curran & Millard, 2015; Healey, Flint & Harrington, 2014). All these definitions suggest that the concept of student engagement is multi-dimensional and multi-faceted.

3.5.1 The Relationship between Engagement and Motivation

The recent definitions of student engagement are based on the belief that learning improves when students form relationships and when they are inquisitive and involved. If students are to learn, then they need to be inspired or motivated to learn. It is therefore claimed that a relationship exists between engagement and motivation (Appleton, Christenson, Kim & Reschly, 2006; Fredricks & McColskey, 2011). Ryan and Deci's (2000) self-determination theory can be applied here to better understand how student motivation and engagement are related.

Engagement may refer to students' inclination, not only to involve themselves behaviourally, emotionally and cognitively in academic tasks, but also to transcend these domains. Motivation, on

the other hand, refers to the efforts that students invest to achieve successful outcomes and it is therefore considered essential for student engagement in learning (Saeed & Zyngier, 2012). Motivation has been classified as "either intrinsic (i.e. inherent to the self or the task) or extrinsic (i.e. originating from outside of the self or the task)" (Corpus, McClintic-Gilbert & Hayenga, 2009, p.154). self-determination theory posits that students who are intrinsically motivated "are innately curious, interested creatures who possess a natural love of learning and who desire to internalize the knowledge, customs, and values that surround them" (Niemiec & Ryan, 2009, p.133).

Motivation and engagement play a major role in students' interest in learning and academic achievement (Martin, 2009). The terms engagement and motivation are even used interchangeably by some scholars (for example, Martin, 2009), while others have suggested that motivation is an intrinsic constituent of student engagement (Fredricks, Blumenfeld & Paris, 2004). There are also others who claim that engagement (or action) and motivation (or intention/purpose) are different but related constructs (Appleton et al., 2006). These claims imply that engagement involves a motivating factor. However, this alone is inadequate for ensuring learner engagement, because learners can be motivated, but may not actively engage in a task (Fredricks & McColskey, 2011). If students are to be engaged in a continuum, they need to be extrinsically motivated by teachers or peers, through the provision of regular, systematic, informed feedback, where they are encouraged to self-regulate their learning by monitoring their own progress (Schlechty, 2001; Jordan, 2012; Reschly & Christenson, 2012).

3.5.2 The Significance and Sources of Engagement

Self-determination theory posits that there are three key sources of engagement that are psychological in nature. These consist of relatedness, competence and autonomy. Moreover, it is claimed that if these needs are met in the context of the classroom or through the activities being performed, students will be motivated and willing to engage in less interesting tasks (Niemiec & Ryan, 2009). On the other hand, if these needs are not met, students will become dissatisfied and may fail to demonstrate higher-quality learning outcomes or enhanced wellness (Reschly &

Christenson, 2012). In other words, students will be more motivated and engaged in a classroom context that supports the satisfaction of their need for autonomy, competence and relatedness.

Relatedness is associated with a learner's feeling that the teacher naturally likes, respects, and values him or her (Reschly & Christenson, 2012). Under such circumstances, students are more likely to internalise and self-regulate their learning, as well as performing arduous tasks within or beyond the classroom. The need for relatedness represents a learner's need to be associated with their teachers and fellow students, while at the same time maintaining good relationships with them (Sulea, van Beek, Sarbescu, Virga & Schaufeli, 2015). Students who do not report relatedness are those who either feel disengaged, or respond only to external (extrinsic) motivation (Niemiec & Ryan, 2009). The need to belong or for 'belongingness', or the need to experience a sense of community - which is theorised in the emotional domain of student engagement - refers to the feeling that a student is not accepted or integrated academically and/or socially into the classroom (Tinto, 2005). Students who feel rejected or not accepted may lack self-efficacy and may also believe that they do not have a positive relationship with their teachers or peers. Niemiec and Ryan (2009) claim that relatedness can be enhanced if teachers are friendly and compassionate, show respect to their students, and make their students feel that their actions are worthwhile. In the process, students can develop a sense of competence and positive self-regard (Voekl, 2012).

The need for competence refers to students' aspirations to experience effectiveness in a learning environment and feel that they may be able to engage in challenges (Sulea et al., 2015). However, it is claimed that teachers must support autonomy, provide intrinsic motivation and build students' self-esteem (Niemiec & Ryan, 2009). The terms 'competence' and 'self-efficacy' are in fact used interchangeably. Competence is a self-perception, referring to a learner's perceived ability to perform successfully in broad academic areas. Perceptions of self-efficacy or competence are also predictors of student engagement.

Perceived competence is considered to be part of self-determination theory (Ryan and Deci, 2000), while self-efficacy is conceived in the theoretical framework of Bandura's social cognitive theory,

which was developed from the social learning theory (Ashford & LeCroy, 2010; Schunk & Mullen, 2012). According to Bandura's social cognitive theory, self-efficacy, or students' perceived ability to learn in specific situations or to accomplish a task, is a significant cognitive variable that influences motivation and engagement (Schunk & Mullen, 2012).

Social cognitive theory stresses that people "people are self organising, proactive, self-regulating, and self-reflecting. They are contributors to their life circumstances not just products of them" (Bandura, 2005, p.1). The basic principle behind the concept of self-efficacy is that students are more likely to engage in tasks that they are competent in performing or have high self-efficacy to undertake and are less likely to engage in those tasks where they lack self-efficacy or competence. Among the most prominent of these capabilities are vicarious and self-regulatory processes. A vicarious process is one where learning takes place by observing models, without undergoing a process of trial and error to learn how to perform a task. Instead, teachers provide examples, which the students emulate when creating artefacts or completing an assignment. These vicarious experiences can help create a sense of self-efficacy if a student is uncertain about his or her own abilities (Schunk & DiBenedetto, 2016). Alternatively, self-regulatory processes refer to the degree to which students and teachers self-regulate their own actions and behaviour through self-observation, self-monitoring and self-evaluation, in order to conform to their internal standards and goals. They also indicate how this is achieved. During this learning process, individuals are continually engaged (Schunk & Pajares, 2009). There is research evidence that by applying self-regulatory processes in learning environments, teachers and students may be able to enhance their self-satisfaction and achieve academic objectives (White & Bembenutty, 2016). However, researchers have suggested that in order to develop self-regulated learners, educators and policy-makers must adopt and establish self-regulatory processes in teacher-training programmes, as well as in curriculum and assessment tasks.

It is evident from the existing research that students with a higher sense of self-efficacy are motivated and engaged in their own learning. Therefore, their competence is enhanced (Usher &

Pajares, 2008; Schunk & Pajares, 2009). Niemiec and Ryan (2009) suggest that by engaging students in optimally challenging tasks and by providing effective feedback, teachers can help enhance students' competence. However, high self-efficacy does not inevitably translate into strong motivation and deep engagement, or result in competent performance when requisite skills are lacking (Schunk & Pajares, 2009). Learners with self-efficacy or competence may be disconnected from the classroom environment; they may feel unmotivated and disengaged, whereby peer or familial support could help fulfil the necessary role of provider and motivator to promote their success (Schunk & Mullen, 2012). In other words, cognitive, behavioural, personal and environmental factors interact to determine motivation and behaviour (Crothers, Hughes & Morine, 2008).

Autonomy refers to the need to express one's experiences as the source of action (Deci & Ryan, 2000). The need for autonomy is represented as a student's perception that the activities and tasks assigned are relevant to his or her interests and goals, accompanied by the student's desire to regulate his or her behaviour (Sulea et al., 2015). Students with a greater sense of autonomy in the classroom display higher levels of classroom engagement, satisfaction, perseverance, attainment and learning (Skinner & Pitzer, 2012). Teachers can enhance autonomy by providing choice and meaningful justifications for learning activities and tasks; acknowledging students' feelings about these topics and reducing pressure and control (Niemiec & Ryan, 2009).

3.5.3 Student-teacher Interaction

The research findings show that a fundamental factor for the development of student engagement is the quality of students' relationships and interactions with teachers (Jones, 2008; Reyes, Brackett, Rivers, White & Salovey, 2012). It is also claimed that such interactions are intrinsically motivating, enjoyable and mutually supportive (Furrer, Skinner & Pitzer, 2014). Here, the quality of teacher-student interaction is multi-dimensional, because teachers can provide support that is emotional, organisational or instructional in nature (Pianta & Hamre, 2009). This suggests that teachers provide (a) emotional support by being subtle, thoughtful, receptive, sincere and conscious of the interests

and needs of their students, (b) organisational support by creating orderly classroom environments, where expectations are clearly stated and students develop more productive learning habits, and (c) instructional support by providing clear feedback to their students.

Furrer, Skinner and Pitzer (2014) claim that if relationships are to work in learning environments, interactions must be courteous and empathetic, with a focus on learning and building academic skills. As a result, students will be given constructive criticism and be receptive to feedback. Skinner and Pitzer (2012) also claim that schools adopting a motivational model and focusing on pedagogical caring (to support the experience of relatedness), thus providing an optimal learning environment with well-structured classrooms (to facilitate competence), and ensuring instruction that supports autonomy - where students are given choices (thus promoting motivation) - can enhance motivation and engagement in the classroom. Research also shows that these three important qualities of student-teacher interaction contribute to students' positive self-perception as well as to classroom engagement (Skinner & Pitzer, 2012).

The learning activities that students engage in serve as agents of interaction, while learning materials and tasks provide opportunities for interaction. According to Furrer, Skinner and Pitzer (2014), teachers act as supportive social partners and contribute to positive self-perceptions, promote student engagement, facilitate learning, and are instrumental in the development of competence. From the foregoing discussion, it may be concluded that student engagement is a crucial factor for achieving learning objectives and success. The discussions also suggest that the influence of the teacher is vital. The following sections discuss how technology and its pedagogical affordances can transform pedagogy and facilitate student engagement.

3.5.4 Possibilities for Engagement in Digital Video Projects

> *The concept of student engagement is based on the constructivist assumption that learning is influenced by how an individual participates in educationally purposeful activities... In essence, therefore, student engagement is concerned with the extent to*

> *which students are engaging in a range of educational activities that research has shown as likely to lead to high quality learning. (Coates, 2005, p.26)*

Student engagement is typically about increasing achievement, positive behaviours and a sense of belonging in students (Taylor & Parsons, 2011). However, student engagement is primarily addressed amongst students in Middle and High School, where disengagement typically becomes a concern (Willms, Friesen & Milton, 2009).

There is already a substantial body of knowledge concerning student engagement, but according to Tinto (2006), most institutions have not yet been able to translate what is known about the concept into the types of action that promote persistence and retention. This thesis upholds Tinto's (2006) views in this regard. Learners are already motivated, but educators need to create situations that will enable them to become actively engaged. These situations should also ensure experiences for the learners that will reinforce the fundamental knowledge and skills required to support the science (Willmot, Bramhall & Radley, 2012).

Meanwhile, Dumova (2008) investigated the use of SGDV as an active learning tool and consequently suggests pedagogical approaches to integrating digital video assignments into the college classroom. The above researcher sought to determine whether a digital video-production activity could be successfully integrated into the learning process and whether such an assignment could positively affect motivation and engagement within students' learning. The findings from the classroom observations and reviews of student-produced videos suggest that the students' reflections on their digital video assignment empowered them to become active producers of content. The above study would seem to prove that if students are placed in a real-life or authentic context, they can actively relate to the environment, establish relationships, interact, and reflect critically on concepts, activities and problems.

Willmot, Bramhall and Radley (2012), in a case study, describe the design and development of a learning activity that incorporated video-reporting at Loughborough and Sheffield Hallam Universities. The findings present strong evidence that digital video-reporting can inspire and

engage students when incorporated into student-centred learning activities through “increased student motivation, enhanced learning experience”, developing the “potential for deeper learning of the subject, development of learner autonomy” and, “enhanced team working and communication skills” (Willmot, Bramhall & Radley, 2012, p.3). The participants in the afore-mentioned study were physically involved in the learning process (for instance filming and searching for information), which suggests that they were more engaged because it was an assignment.

Meanwhile, Ryan (2013) examined how the learning experience of disengaged and indifferent undergraduate students in the Republic of Ireland could be enhanced by integrating active learning into the curriculum. The above author claims that by integrating technology - for example, in the form of a task to design and create a digital video - students can become empowered and will become more engaged in their learning. The students who produced the videos and who were involved in classroom discussions with peers reflected that they enjoyed collaborating with others and deeply appreciated their role and responsibilities. The resulting findings show that the students had enjoyed an authentic learning experience.

The study findings described above suggest that the creation of digital video can empower students to become active producers of content (Dumova, 2008), to become more engaged in their learning (Ryan, 2013) and to achieve the outcomes of improved knowledge and transferable skills (Willmot, Bramhall & Radley, 2012). In digital video projects, the role of the teacher changes to that of an activity facilitator, with the students actively constructing their knowledge through engagement with the activity (McGhee & Kozma, 2001).

It is claimed that students who generate and use video, not only improve the quality of their work through reflection, but also their learning outcomes (Henderson et al., 2010). Norton and Hathaway (2010) examined the reflections of teachers and learners regarding the use of video production in classrooms, looking for evidence of content learning, the factors facilitating the teacher’s use of video production, and the challenges facing teachers. The results of the above study showed that

videos promoted motivation and engagement amongst the students studied, as well as reinforcing and expanding their understanding of the content, resulting in positive learning outcomes. Engagement was noted as students being "attentive during [the] entire process" and having a "high level of interest and enthusiasm" (p.155). Meanwhile, the study participants described engagement in terms of their ability to stay on task. The above work corroborates other findings (Dumova, 2008; Willmot, Bramhall & Radley, 2012; Ryan, 2013) revealing that the integration and use of video production as an instructional strategy in the classroom can enhance student engagement. However, increased student engagement does not always lead to better learning outcomes. Technology can strengthen student engagement and learning, but only if active in-class instructional strategies, such as hands-on and practical tasks and activities, are integrated into the classroom (Greene & Crespi, 2012; Freeman, Eddy, Mcdonough, Smith, Okoroafor, Jordt & Wenderoth, 2014). These activities will give students the opportunity to think critically and solve problems.

Additionally, Halter and Levin (2014) found that the creation and use of personal video clips could support and enhance reflection. They argue that reflection leads to professional growth and expertise, thus suggesting that pre-service teachers involved in teacher preparation programmes cannot attain knowledge without it. Hafner and Miller (2011) report a digital video project in which students created and shared a documentary. The findings demonstrated that the authentic learning environment provided opportunities for autonomous language learning, whereby the students reflected that the digital videos created on the course allowed them to take control of their learning and become autonomous learners. However, the study did not give any evidence that the students' English language awareness was satisfactory in this learning process.

Cheng and Chau (2009) also explored how students set about creating digital video clips and how this affected their reflection in an ePortfolio environment. The overall outcome substantiated the results of other studies (Halter & Levin, 2014), where the creation of digital videos was found to lead to more intense self-reflection. The student teachers were able to receive more and deeper

levels of reflective feedback on sharing video clips of their practice with peers. These findings support previous assumptions (for example, see Wegerif, 2015), which would seem to suggest that the appropriate use of videos in a curriculum can enhance the existing multiple benefits of reflection.

In contrast, Lally and Sclater (2013) investigated the use of virtual worlds by young people and interviewed students in the UK and Trinidad; specifically targeting the age group 15-17 years and involving them in the production of a series of short videos. The study, which formed part of the 'Inter-Life Virtual World Project', found that technology can be used not only to support and improve the quality of practice, but also to help students develop important life transition skills. The results suggest that when new technologies are integrated into the curriculum (for example, using film, video or photography) students can gain work-related skills; including social, teamwork and self-management skills, and learning and innovation skills, such as communication and collaboration. These skills impact student engagement when learners are involved in creating videos either individually or in groups. Moreover, the findings also indicate that the practical knowledge and experiences gained by students during a project can be transferred to other real-life settings.

To sum up, it is evident from the literature that autonomous and authentic learning environments can engage students in a self-managed process of reflection. However, teachers need to embed videos in a context of active learning and into the curriculum, so that they can provide more personalised and meaningful feedback to students (Henderson et al., 2010; Lally & Sclatter, 2013; Ryan, 2013). It is also suggested that educators carefully select and evaluate promising technologies in naturalistic settings, given the exponential speed of technological advancement (Lally & Sclatter, 2013).

3.6 Situating Theories of Learning within the Context of the Current Research

New perspectives of the learning process have emerged, with a move towards learner-centred approaches, based on the research and the convergence of several theories. These theories of learning inform our understanding of the nature and context of learning, in light of the adoption of emerging technologies, such as SGDV. The way in which teachers and students adopt and use ICT to teach and learn rests firmly on their philosophical and theoretical underpinnings, beliefs and views of the technology involved. The principles applied by most teachers in their teaching practice are borrowed from learning theories, such as behaviourism, cognitivism, constructionism, constructivism, social constructivism and situated learning, so that they can better interact and negotiate their ideas (Pritchard & Woollard, 2010; Lowyck, 2014). However, it is argued that teachers tend to integrate technology into traditional ways of teaching, rather than adopting a theory-informed approach to transforming educational practice (Harasim, 2012). The importance of learning theory has been aptly summed up by Knapper (2010):

> *…there is an impressive body of evidence on how teaching methods and curriculum design affect deep, autonomous, and reflective learning. Yet most faculty [members] are largely ignorant of this scholarship, and instructional practices and curriculum planning are dominated by tradition rather than research evidence. As a result, teaching remains largely didactic, assessment of student work is often trivial, and curricula are more likely to emphasize content coverage than acquisition of lifelong and life-wide learning skills*. (p.229)

Knapper's summation suggests that teachers need to be aware of the various learning theories, in order to be effective as educators; for instance, when making decisions and endeavouring to understand why some teaching approaches are more effective than others for the promotion of learning. Philosophical and epistemological beliefs are used by teachers to construct a teaching model, so that they can encourage higher-order thinking in students, especially when learners are engaged in complex tasks. It is assumed that faculty staff in higher education hold the epistemological belief that students will construct knowledge independently, provided that their

teachers facilitate the learning process (Perkins, 1999). This suggests that teachers need to understand students' epistemological perspectives, if they are to bridge any gaps in students' knowledge. It also explains the radical change witnessed in the teaching process, where the conventional teaching approach - involving teacher-centred methods, with lecturers controlling the learning environment - is claimed to be giving way to student-centred teaching (Kirkwood & Price, 2013). However, this transition is not always easy and traditional methods, which revolve around the transmission of knowledge, with lecturers controlling the learning environment, still exist in many educational institutions around the world (McCabe & O'Connor, 2014; Li, 2016).

In the context of Kuwait, where the traditional Arabic education system is gradually changing, cultural values nevertheless still affect the way in which students learn (Hall & Herrington, 2010). For example, Arabic is taught using traditional methods, such as rote learning and this is equally true of other subjects. The use of modern teaching methods is not welcomed by the whole population, but is resisted by some Arabists. These are mainly traditionalists and nationalists, who do not wish to be exposed to Western learning approaches (El Safty, 2005; Abdalla, 2006). In a socio-cultural environment, characterised by values that are usually based on gender segregation, where knowledge is considered to be derived by divine revelation, and where there are few opportunities to express or discuss ideas, researchers still hope that technology can help overcome the cultural limitations (Al-Fadhli, 2008). It is therefore argued that curriculum developers intending to integrate technology need to consider the influence of culture when designing learning frameworks (Hall & Herrington, 2010).

3.6.1 Theories of Learning

The literature reviewed suggests several plausible theories, such as the socio-cultural and cognitive theories of learning, as well as situated cognition and knowledge building. However, before discussing these theories, it is essential to gain an understanding of how theories of learning have evolved over the years, especially the broader and more traditional approaches of behaviourism

and cognitivism. This is because new and emerging theories and approaches, for example constructivism and social learning theories, have been adapted from cognitive learning processes.

Behaviourism

Behaviourism, which dominated during the 1960s and 1970s, emerged from the works of psychologists, Ivan Pavlov and Burrhus Frederic Skinner (Westbrook, Durrani, Brown, Orr, Pryor, Boddy & Salvi, 2013). Skinner (1974) considered that classical conditioning or learning, which occurs involuntarily or reflexively, whne learners being provided with stimuli, is too simplistic for explaining human behaviour. Instead, Skinner's behaviourism also identifies operant conditioning, which refers to the use of reinforcement to change or reward repeated behaviours (Skinner, 1974). This suggests to some scholars that learners are passive and that learning takes place when teachers shape or modify students' behaviour using objective methods (Moore, 2011). However, engaged and active learners can develop their learning strategies and understanding through appropriate, reinforced behaviour. Behaviourism strictly adheres to the study of observable behaviours. In other words, the focus of the behaviourists was on learning by affecting changes in behaviour, while the learners' internal or mental processes were not considered. Consequently, behaviourist teaching and learning methods include rote learning, drill-and-practice, memorisation and repetition. This theory therefore supports teacher-centred approaches, which allow teachers to predict, exercise control and use rewards and sanctions to impart instruction (Harasim, 2012). In the behaviourist classroom, there is a lack of student-teacher interaction and teachers are unaware of students' knowledge or misconceptions (Westbrook et al., 2013). This is because the role of teacher is purely to transmit or disseminate knowledge.

Cognitive Theories of Learning

The cognitive theory of learning focuses on the brain and as a result, thinking and memory play a vital role. In other words, the brain processes and interprets information as an individual learns. This theory posits that learners are to be seen as active, constructive and problem-solving.

- ***Piaget's theory***

Piaget's (1964) theory of cognitive development (constructivism) provides a solid framework for understanding children's' thinking at different developmental stages. According to Piaget, children have their own clear views of the world, which differ from the perspectives of adults. Phrased differently, intelligence is not a fixed trait and a child's intellectual development is a lifelong process; occurring as a result of biological maturation and interactive experience with the world, whether with other people or with objects.

Piaget studied young children and found that they consistently made mistakes, in comparison to older children and adults. Therefore, Piaget proposed that young children's cognitive processes differ from those of adults and consist of various stages of cognitive development: the sensory-motor (pre-verbal stage), pre-operational representation, concrete operations, and formal operations.

Piaget's theory also posits that learning occurs through the interchange between two mental activities, referred to as 'assimilation' and 'accommodation'. Assimilation consists of integrating new information with existing beliefs or ideas, while accommodation relates to adapting existing knowledge in terms of new information or experience (Piaget, 1964). Learners attain 'cognitive equilibrium' when 'assimilation' and 'accommodation' work together, when they are able to self-regulate their learning, or when knowledge corresponds to their accumulated knowledge (Piaget, 1964). Piaget's theory is labelled 'constructivist' and forms the basis of the constructivist theory of learning and instruction.

- ***Bandura's social cognitive theory***

Social cognitive theory, initially referred to as 'social learning theory' in the 1960s, was developed by Bandura in 1986. This theory, which is applicable to education, suggests that learning occurs when there is a dynamic and reciprocal interaction between the learner, environment and

behaviour. In other words, the theory holds that learning occurs in a social context and learners acquire knowledge by observing others, or through observational learning, stimulation and modelling (Bandura, 1999). Bandura stresses in his article, 'Social cognitive theory: An agentic perspective' that people are self-organising, proactive, self-regulating and self-reflecting, rely on intermediaries, and learn by sharing beliefs, mutual understanding and collective action (Bandura, 1999). The above theory appears to connect behaviourist learning theories (for example, the reinforcement of behaviour through external stimulation) and cognitive learning theories (attention, memory and motivation).

Self-efficacy plays a key role in social learning theory. Learners develop self-efficacy beliefs that they can successfully perform and use to achieve their goals. Learners with strong self-efficacy beliefs are found to be more motivated, invest more effort and persevere at learning. However, those with low efficacy, or who do not consider themselves to be efficacious, are likely to attribute their failure to low ability. Social factors, such as interactions with teachers and peers, can enhance self-efficacy; for example, when teachers act as facilitators and provide encouragement through prompt and speedy feedback, use modelling or show exemplars of work produced by past students, provide scaffolding, engage students in activities, and incorporate peer models into their instruction.

- ***Papert's theory: A constructionist approach***

Deviating from Piaget's views, Papert developed a constructionist theory of learning, which is grounded in Piaget's constructivism. In his article, 'Situating Constructionism', Papert advocated that knowledge was not mentally constructed, but rather formed through constructs or internal models (Papert, 1991). In his opinion, the world is viewed through these constructs. Thus, the knowledge theory of constructionism emerged, in sharp contrast to constructivism, which focuses solely on learning.

However, Papert (1991) does not provide a definition of constructionism, as he believes that that such an idea "would be particularly oxymoronic" (p.12). Nevertheless, he does state that everything

can be understood as long as it is constructed. Based on Papert's supposition, this study defines constructionism as the construction of knowledge through the creation of products or artefacts. Here, Papert differentiates his theory of constructionism from Piaget's constructivism:

> *Constructionism - the N word as opposed to the V word - shares constructivism's connotation of learning as "building knowledge structures" irrespective of the circumstances of the learning. It then adds the idea that this happens especially felicitously in a context where the learner is consciously engaged in constructing a public entity, whether it's a sand castle on the beach or a theory of the universe".* (Papert, 1991, p.11)

Papert claims that children are 'active agents' in their learning and activities, such as building sandcastles and using Lego construction kits or new technologies, which offer them highly engaging, stimulating and rich learning experiences (1991). Therefore, teachers do not merely transfer knowledge to students, but create conditions for discovery learning. In other words, students create knowledge structures for themselves.

Papert's theory originated when he was involved in watching students learn in an art class. He consequently assumed that students could learn other subjects, such as Mathematics, in an imaginative way. Papert's theory advocates that learners can produce their own content, especially if technology is integrated as a tool for project-based collaborative, immersive and discovery learning. The content or tangible object created by the students can then be shared and discussed with others.

- ***Vygotsky and social-constructivist theory***

Vygotsky's social-constructivist theory posits that knowledge is actively internalised (with the individual using skills or information based on their needs and experiences) through active participation, student-teacher discussion, interaction or communication, teamwork, and self-regulation (Vygotsky, 1978). In short, learning or cognitive development stems from social

interaction and tools provided by the culture involved (for example, language), which facilitate the formation of opinions of the world. However, when engaged in a social situation, learners need to be guided.

Meanwhile, Vygotsky believed that learning takes place in the zone of proximal development (ZPD), which:

> *. . . is the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more peers.* (Vygotsky, 1978, p. 86)

The ZPD is created in the course of social interaction. It represents the gap that exists between an independent learner's actual developmental level and his/her potential to accomplish tasks by interacting with peers. In other words, the ZPD is a learner's potential level of cognitive development, if provided with the appropriate support. It is within this ZPD that scaffolding takes place, whereby lecturers move students' learning forward by supporting collaboration.

Besides the ZPD, another principle advocated by Vygotsky (1978) is the More Knowledgeable Other (MKO). Learners interact and collaborate with this knowledgeable individual - who may be a peer, lecturer or online tutor - while attempting a task or activity. The learners then acquire skills through a process involving constructive criticism, until they develop competence.

Constructionsim and constructivism: A discussion

Piaget believed that cognitive development was a product of the mind, "achieved through observation and experimentation", while Vygotsky regarded it as "a social process, achieved through interaction with more knowledgeable members of the culture" (Rummel, 2008, p.80). Piaget referred to his work as 'cognitive' constructivism (Kalpana, 2014) and held that cognitive development occurred at different stages, the first stage being schema (building blocks of knowledge, or mental representations of the world, which the individual uses to understand new information). It suggests that students process, store and retrieve knowledge for later use, while

teachers provide opportunities for students to connect new information and reflect upon it (Ewing, Foster & Whittington, 2011). The emphasis is consequently on the individual construction of knowledge, with the teacher encouraging the learners to apply appropriate learning strategies (Ertmer & Newby, 1993). Learning and teaching approaches that are based on behaviourist and cognitive theory are claimed to share scientific traditions, which are fundamental to objectivism – the latter being the transfer of 'objective knowledge' to the learner (Mensah, 2015).

Constructivism is a theory of learning, whereby constructivist epistemologists consider knowledge to be constructed via a continual process of discovery (Pritchard & Woollard, 2010; Harasim, 2012). It is a branch of cognitivism, but it emphasises that knowledge is collectively constructed (Mensah, 2015). This suggests that unlike cognitivists, constructivists view learning as the discovery of meaning. The most important learning characteristics of constructivism are that learners can build on their own interpretation of the world based on experience and interaction. This will then generate new understanding through the collection of knowledge from various sources (Duffy, Lowyck & Jonassen, 2012).

Meanwhile, constructionists view knowledge and truth as being constructed through negotiation, human perception and shared experiences (Andrews, 2012). In other words, constructivists believe that learners actively engage in knowledge construction for themselves, but social constructionists posit that individuals jointly construct their understanding of the world.

Social constructionism therefore assumes that learners build internal models by sharing perceptions of perceived constructs with others. Knowledge construction can thus be seen as a social process, whereby ideas emerge from ongoing discussion and interactions. Therefore, the social constructionist view is that language, communication and speech are the key to interaction, through which we understand the world and ourselves (Galbin, 2014).

Social constructionism is closely related to social constructivism, as both theories posit that learners collaborate to construct artefacts. However, social constructionism differs in that the artefacts are created through the social interaction of a group (Galbin, 2014). Vygotsky referred to his work as

'social' constructivism (Kalpana, 2014), which is not the same as social constructionism; it is rather a sub-theory of constructivism (Pritchard & Woollard, 2010). Vygotsky's theory is considered to be relevant to the advanced pedagogies of the 21st century, as educational technologies become increasingly integrated into teaching and learning (Verenikina, 2010).

The 'social' component in social constructivism indicates that knowledge is constructed through interaction between lecturers and students and between students and fellow students (Hubbard, 2012). In an educational context, interactivity denotes 'doing', or active participation in the learning process (Downes, 2007). Interaction also refers to engagement and involves communication, teamwork and the social construction of knowledge (for example, creating and sharing appropriate content with others). In other words, learners collaborate, think flexibly, consider multiple perspectives and interpret the given information (Bodrova & Leong, 2012; Harasim, 2012). Biggs and Tang (2011) argue that conceptual changes take place when "students work collaboratively and in dialogue with others… Good dialogue elicits those activities that shape, elaborate and deepen understanding" (p.23). In other words, knowledge is constructed through social interaction or collaboration with more knowledgeable members of the community (Pritchard & Woollard, 2010). Collaborative learning supported by technology and teachers can improve interaction in the classroom, thus facilitating the sharing and distribution of knowledge within a learning community (DeBarger, Penuel, Harris & Schank, 2010). The current thesis assumes that SGDV supports social constructivism and collaboration.

In the constructivist classroom, the teacher is no longer perceived as the sole knowledgeable authority. Instead, they facilitate learning and focus on guiding, engaging and supporting students in the process of knowledge construction. Pritchard and Woollard (2010) suggest that as facilitators, teachers use open-ended questions to elicit information from learners about their experiences and thoughts, encourage classroom or peer-discussion, and guide learners towards reflection on their inconsistencies. They create and adapt course content to meet students' needs and emphasise activity in the classroom (Lawrence, McNeal & Yildiz, 2009; Ryan, 2013). Teachers in such a scenario

are “the guide on the side”, as opposed to “the sage on the stage” (Morrison, 2014, p.1). In such situations, they understand how to assess students' strengths and weaknesses and design lessons accordingly.

To elaborate on this further, Vygotsky (1978) believed that learning takes place in the zone of proximal development (ZPD), which:

> *. . . is the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more peers. (cited in Mensah, 2015, p.3)*

The ZPD is created in the course of social interaction. It represents the gap that exists between an independent learner’s actual developmental level and his/her potential for accomplishing tasks by interacting with peers (Attwell & Hughes, 2010). In other words, the ZPD is a learner’s potential level of cognitive development, if provided with the appropriate support. It is within this ZPD that scaffolding takes place, whereby lecturers move students’ learning forward by supporting collaboration. Scaffolding is the process that supports learners in their efforts by shaping their interactions and breaking down instruction into easy steps, so that the students’ level of performance can be enhanced (Pritchard & Woollard, 2010). It involves giving hints, ideas, inspiration and other components of guiding a project, such as the creation of digital videos. As a result, students will be led to make progress in their learning. In other words, the teacher models possible ways of carrying out tasks, which the student can then reproduce and ultimately adopt. According to Pritchard and Woollard (2010), teachers can employ a variety of types of scaffolding, such as prompts, critical listening, feedback, reducing the complexity of ideas or lessons, and motivation. Besides the ZPD, however, another principle advocated by Vygotsky (1978) is the More Knowledgeable Other (MKO). Learners interact and collaborate with this knowledgeable individual, who may be a peer, lecturer or online tutor, while attempting a task or activity. The learners will then learn skills through a process involving constructive criticism, until they develop competence.

3.6.2 Social Constructivist Approaches to Learning: Authentic and Situated Learning

In social constructivist classrooms, teachers embed learning in a rich, authentic problem-solving environment, built around authentic activities. The concept that knowledge is actively constructed by the learner while undertaking authentic activities in real-world situations is derived from constructivist learning theory (Evans, Muijs & Tomlinson, 2015). Real-world applications include objects, products or services that are used by individuals in actual real-life situations.

3.6.2.1 Authentic Learning

The 'authentic learning environment' is a pedagogical approach that enables learners to engage in their learning activities by searching, discussing, and profoundly constructing concepts and relationships through reflection in the classroom (Herrington, Reeves & Oliver, 2010; Herrington, Parker & Boase-Jelinek, 2014). It provides learners with the opportunity to engage in realistic tasks, and to collaborate and acquire a deeper understanding of a task's requirements (Colbran, Gilding, Colbran, Oyson & Saeed, 2015). Students benefit from such learning experiences, as it is claimed that they can use the practical experience and training acquired to solve unforeseen problems, develop their understanding, and shape their confidence when delivering results (Herrington, Parker & Boase-Jelinek, 2014). Authentic learning environments are not actually created, but are rather facilitated by lecturers. This is because authenticity lies in the creation of learning possibilities. This suggests that in authentic 'real-world' learning environments, enquiry, interaction, the creation of new and innovative ideas, self-directed learning, effective assessment, and feedback practices are more important than transmitting information (Evans, Muijs & Tomlinson, 2015).

Authentic learning is not in fact a distinct theory, but lies within situated cognition or situated learning (Colbran et al., 2015). However, both are part of the social constructivist theory and the larger constructionist epistemology. All share the common principles that learning is a process in which learners create meaning from their own experiences of the world, that it is a social and collaborative process, and that knowledge is highly situated and co-constructed through social

interaction. One of the key principles of social constructivism is that learning is situated in authentic activities (for example, the creation of videos) and is dependent on the context and culture in which it occurs (situated learning) (Pritchard & Woollard, 2010). In sum, authentic learning may be defined as learning and acquiring knowledge and skills in a particular context that may be useful in real-life situations (Colbran et al., 2015). In authentic learning environments, teachers relinquish much of their control in the classroom and instead, encourage students to become self-directed learners, facilitating this process. In other words, this approach does not subscribe to the 'one size fits all' model (Laur, 2013).

Authentic learning was embraced, once the traditional teaching approaches used in higher education were challenged by academics, because traditional resources and classroom experiences could not be recalled or used in real life (Hoi & Koplin, 2011; Keefe & Jenkins, 2013). Moreover, authenticity is created when using technologies to relate to other people; for example students and lecturers within or outside learning environments. Technology allows learners not only to collaborate, but also to interact virtually, resulting in 'communities of practice' (Tynjälä & Häkkinen, 2006). Learners may also use technologies to express and develop their imagination and to simulate real-life issues by observing phenomena, recreating previous events, and arriving at results through experimentation (Walters, 2011). Authentic learning is inevitably related to authentic assessment (Woo, Herrington, Agostinho & Reeves, 2007; Gikandi, Morrow & Davis, 2011).

The use of technology supports peer-assessment and peer-feedback, but assessment must be carried out against pre-agreed criteria. The rationale for the use of authentic assessment is that traditional methods are considered obsolete, since they only provide superficial feedback to learners (Herrington, Parker & Boase-Jelinek, 2014). As a result, learners are not assessed in terms of their performance, but according to inferences made about their capabilities (for instance their analytical skills), in order to determine how knowledge can be applied in real-world situations (Lam, Williams & Chua, 2007; Yuan, Wang, Kushniruk & Peng, 2016). In other words, the entire process of learning is evaluated. Authentic assessments encourage a constructivist approach to learning,

and are beneficial because student learning can be evaluated using direct measures (for instance, learners' performance or presentation skills) (Bhattacharjee, 2015). On the other hand, the challenges facing students in such environments will include questions over how qualified peers are to assess the work of other learners, giving rise to the demand for good quality feedback. In spite of these challenges, authentic learning may have the potential to transform the learning experience in higher education institutions, because it gives learners the opportunity to learn workplace skills, such as critical reflection in everyday practice (Herrington, Parker & Boase-Jelinek, 2014).

Technology-enhanced learning environments can in fact provide authentic or active learning experiences, which are constructivist in nature (Herrington & Herrington, 2006). These situations are characterised by a realistic context, which allows learners to articulate their ideas, engage in continuous enquiry, interact, and freely explore different perspectives (Tynjala & Häkkinen, 2006). Authentic learning empowers learners to construct knowledge collaboratively. It also enables scaffolding or support for students during the learning process (or when lecturers give learners responsibility for their own learning). Moreover, it facilitates the sharing and distribution of knowledge within a learning community and fosters reflective practices (Hui & Koplin, 2011).

3.6.2.2 Situated Learning

Situated learning occurs when students execute authentic tasks in the location where the learning and its application is also taking place (Vermunt, 2015). These situated learning spaces are real-world settings, where teachers increasingly involve learners in a community of practice (Preston, Balaam, Seedhouse, Rafiev, Jackson & Olivier, 2015). A community of practice is defined as "a living context that can give newcomers access to competence and also can invite a personal experience of engagement by which to incorporate that competence into an identity of participation" (Wenger, 1998, p. 214). Situated learning, associated with social constructivism, was formulated by the theorists, Jean Lave and Etienne Wenger in the 1990s.

Lave and Wenger (1991) viewed learning as a situated activity and stressed the importance of "shifting the analytic focus from the individual as learner to learning as participation in the social

world" (p.43). The above theorists view learning as legitimate peripheral participation, meaning that learners become members of communities of practice and acquire knowledge and skills as newcomers, share common interests and goals, and gradually deepen their knowledge and expertise. However, Lave and Wenger's concept of situated activity does not imply that learning is the acquisition of passive knowledge; it rather "lies in the power to renegotiate the meaning of the past and future in constructing the meaning of present circumstances" (p.34). In the above authors' work, *Situated learning: Legitimate peripheral participation,* the central theme is that learning takes place through the interaction between novices and professionals. They cite the example of midwives, meat cutters, and tailors acquiring skills in informal gatherings, where novices consult experts and ultimately improve their practice. Thus, the principle and pedagogical foundation of situated learning theory is that real learning takes place through negotiation and collaboration in spaces referred to as 'communities of practice' (Lave & Wenger, 1991).

These communities of practice consist of the domain, the community, and the practice (Wenger-Trayner & Wenger-Trayner, 2015). The domain is the shared space, where learners collectively share ideas and pursue learning. The community is the environment in which the learners interact and build relationships, so that they share information, help each other and learn together. In so doing, they share experiences, tools and approaches to solving recurring problems, as well as developing shared practice (Wenger-Trayner & Wenger-Trayner, 2015).

According to the situated learning model, knowledge is acquired in context, such as generating a video in a classroom or outdoor location. The context in which learning takes place is authentic, as is the authenticity of the task. Learning in an authentic context can be effective when technology is integrated. Collaboration, an essential constructivist pedagogical attribute, is vital for the success of a community of practice and guides students toward the 'domain' in such communities. When technology is integrated, collaboration extends learning beyond the classroom to communities formed by learners and teachers. As in the case of other theories associated with constructivism, teachers as facilitators of learning provide scaffolding, feedback and guidance, if students are

immersed in authentic tasks. In other words, teaching is situated in authentic contexts. Besides, Kearney and Shuck (2006), who argue in favour of situated learning in communities of practice, emphasise the value of apprenticeship, whereby students can be coached into authentic practices. This can equally be applied to the production of videos.

3.6.2.3 Implications of Learning Theories for Effective Technology Integration

The theories and concepts discussed in previous sections are mostly associated with constructivism, which is considered as one of the most effective theories for helping learners construct and build on their own knowledge. However, social constructivism, which focuses on creating meaning and knowledge through collaboration, can have a significant impact on students and teachers. It may be argued that this impact is further amplified, if social constructivist theory is integrated with technology.

McCabe and O'Connor (2014), who investigated the introduction of a student-centred approach into a college in the Republic of Ireland, found that students were unable to make the transition from being passive receivers of information to becoming active learners. Active learning, which is based on constructivist theory, occurs when students actively participate in their own learning by constructing or building an understanding of a lesson or topic, whether individually or in groups. This will involve discussion, explanation, debate or brainstorming during class and in the presence of a lecturer (Li, Mai & Tse-Kian, 2013; Sawant & Rizvi, 2015). Currently, with the inclusion of ICT in the teaching process, learners actively engage in learning and construct knowledge, instead of acquiring it (Li & Ngan, 2009; Downes, 2015; Ferguson & Chow, 2015). This suggests that technology can support students. Moreover, ICT offers flexibility and enables students to engage in learning anywhere and at any time (Arokiasamy, 2012). However, learners can only thrive in authentic online environments if lecturers facilitate this process (Hustad & Arntzen, 2013; Bolton, Mildenhall, Sim, Lounsbury & Northcote, 2016). Student-centred learning is claimed to be an approach, which allows learners to collaborate with their lecturers and peers, either in groups or individually; while exploring and actively seeking knowledge, rather than remaining passive recipients of knowledge

(Tyabaeva, Sedelnikovaa & Voytovicha, 2015; O'Toole, 2015). Student-centred learning provides opportunities for the flexible online delivery of course materials, whereas personalised learning meets the needs of individual learners. This form of learning is based on the social constructivist view (Downes, 2007; Evans, Muijs & Tomlinson, 2015).

Social constructivist approaches are widely used in institutions and policy-makers embrace it, as they believe that learning takes place in authentic and real-world environments, where students - through the use of self-regulation and self-mediation to acquire knowledge - are assessed formatively (Attwell & Hughes, 2010). However, it is argued that constructivist approaches to technology use can be challenging, because in reality, it is difficult to bridge the gap that exists between theory and practice; for instance, translating constructivism into an instructional design (Heng, 2005; Brown, 2012). Moreover, it is argued that constructivism is a learning theory and not an instructional-design theory (Karagiorgi & Symeou, 2005).

As highlighted above, technology integration into the educational process supports authentic learning (Herrington & Kervin, 2007). Authentic learning environments using technology are considered pedagogically appropriate, not only for retrieving information or tasks and using them in real-life situations, but also for understanding them through analysis and interpretation (Herrington & Reeves, 2011). As active learners, students learn basic skills using technology, but they also need to integrate these abilities (such as higher-order thinking skills and communicating in a multi-faceted manner), when carrying out tasks that involve identifying and resolving complex problems in real-world situations (Herrington & Kervin, 2007; Yuan et al., 2016); for example, in professional work environments. If students are to gain essential real-world skills besides facts and other information, learning materials must be authentic (Moodley & Aronstam, 2016) and more importantly, up to date. However, teachers may need to be prepared, if they are to use technology in a pedagogically appropriate manner (Burden & Kearney, 2015). For instance, there is a need for teacher educators to model exemplary pedagogies "through collaborative practices, problem

solving, creative thinking, interpersonal communication, and digital technology competencies" (Newhouse, Cooper & Pagram, 2015, p.71).

3.6.2.4 SGDVs and Social Constructivism

SGDV can facilitate a constructivist approach for teaching and learning, as it encourages creative problem-solving based on collaboration and peer-to-peer communication. It can be a helpful learning tool, as it allows digital media to be combined with innovative teaching and learning practices. It also supports rich and authentic learning (Hafner & Miller, 2011; Ryan, 2013), experience, student autonomy and ownership, and meaningful student roles and interaction (Kearney, 2011).

The main tenet of constructivism is that individuals construct knowledge by interpreting the information presented to them. Digital video production stimulates reflection and discussion, because learners actively engage in activities. It could therefore be applied in constructivist learning (O'Donoghue, 2014). Thus, the knowledge creation approach to authentic learning gives importance to the collaborative creation of knowledge objects. However, the negotiation and construction of meaning in social contexts is necessary for collaborative learning (Vygotsky, 1978). Digital videos allow learners to connect with others through their interests and shared experiences of the objects. It allows collaboration between teachers and learners, which may enhance learning, engage students in active understanding, help learners create meaning, and promote learning from peers and feedback.

Digital video projects can be considered authentic, as they promote situated learning opportunities and collaboration. Projects of this nature are authentic, because they take place in the real world, and the object-oriented products created by students are used by real people. A situated learning approach can also be used to create digital videos, whereby knowledge is created or negotiated through the learners' interaction with the teacher, who may be referred to as a mentor or facilitator. Knowledge and skills are the acquired in the relevant context through collaborative

social interaction with individuals and the rest of the community in day-to-day activities (to reach a mutual understanding through shared values and goals, or based on common ground).

Collaboration and participation, while generating digital videos, presents a unique opportunity for knowledge-creation. In other words, knowledge is created and shared by all stakeholders (students, teachers and peers), from a variety of socio-cultural perspectives in the learning community. This involves complex interaction amongst the members of a community, while at the same time maintaining dynamic relations with the technology and the community's social practices (Hakkarainen, Paavola & Seitamaa-Hakkarainen, 2013). SGDV not only helps build on learners' technology skills, but also encourages teachers to leverage worthwhile outcomes, such as peer-assessment, the encouragement of group discussion and the sharing of perspectives at all stages of this process, including scripting, camera use and post-production (Kearney, 2011; O'Donoghue, 2014). In addition, the use of SGDV is claimed to facilitate integrated approaches to a wide range of curricular areas; engaging learners in higher-order thinking and enabling a deeper understanding than if the experience had been solitary (Ryan, 2013.). Ryan (2013) emphasises that SGDV provides students with a flexible learning environment, where they can work collaboratively, engage in group-based discussions and consider the various issues from a critical perspective. In order to engage with other students and be able to share their experiences with others, it is of paramount importance that a community of practice forms within a digital video project. This is because students aim to understand more by constructing meaning from their knowledge of video production, gained through experience and reflection on that experience (O'Donoghue, 2014). This has a synergistic relationship with the constructivist approach to learning. SGDV involves an active learning process, which provides members of the group (or class) with opportunities to learn from each other (O'Donoghue, 2014). There is even research to suggest that in digital video projects, groups assist each other in shooting video footage, managing and using software, and providing peer review (Ryan, 2013).

When students create videos, the activities involve scripting, shooting video footage, clip trimming, editing, formatting, recording, etc., all of which provide a rich context for learning. SGDV also supports participation and collaborative activities, as well as knowledge construction, which are key principles of situated learning. When collaborative technologies, such as digital videos, are used to design an instructional activity, interaction between students, peers and teachers is implied in historically-situated and evolving processes (Sullivan, Marshall & Tangney, 2015). Discussions with group members allow students to share information, in order to develop deeper meaning through discussion. This then reflects on the knowledge that they have constructed. In brief, SGDV allows learning to become both a personal and a social activity and serves the same purpose as a lecturer by facilitating learning.

This review of previous and current literature suggests that a socio-constructivist model of learning can provide students with more control over the learning process. It is a style of learning that can be more effective for preparing students for real-life situations, which they may encounter outside the classroom, with no lecturers to help them resolve problems. This thesis, which focuses on SGDV, therefore upholds previous assumptions (Schuck & Kearney, 2004; Kearney & Schuck, 2006; Evans, Muijs & Tomlinson, 2015; Wegerif, 2015), namely that digital videos produce student-centred, authentic learning opportunities through collaboration, social interaction, peer-feedback, dialogic thinking (combining technology with reflection and dialogue), and real-world student engagement.

The discussions in this section suggest that along with emerging technologies and technology-based teaching, new theories of learning are evolving. A knowledge of these theoretical approaches is required, if educators are to make choices over how to approach their teaching in ways that best suit learners' needs.

3.7 Summary

This chapter has discussed SGDV and why it has been used in various disciplines to enhance student engagement, reflection and reflective practices. The literature reviewed suggests that the affordances of SGDV include learning through collaboration and partnership, the creation of engaging and innovative content, providing students with authentic learning experiences, the promotion of active engagement, increased reflection, heightened learner autonomy, and enhanced educational outcomes. Despite these affordances of SGDV, however, there is a need for effective pedagogy to increase learning. Therefore, lecturers must recognise and consider the affordances of SGDV, before integrating it as a tool for student engagement. The key to successfully harnessing the affordances of SGDV to support students' needs lies in using teachers' technological and pedagogical knowledge. In order to effectively integrate educational technologies into instruction, lecturers must take care to match the video content to the instructional goal, as closely as possible. Therefore, researchers suggest that lecturers need to be involved, not only in the planning or developmental stages of video production, but throughout the entire project. The role of the lecturer is to embed videos in a context of active learning and to facilitate learning. Thus, the lecturers' technological pedagogical knowledge will inform the choice of SGDV for instruction. Nevertheless, more research is required to investigate the pedagogical affordances of SGDV and whether digital video projects can positively influence learning. There is also a lack of appropriate pedagogical approaches for the integration of digital videos into the classroom. The next chapter therefore conceptualises and presents a pedagogical model for the integration of SGDV into the classroom.

Chapter 4: Theoretical and Conceptual Framework

4.1 Introduction

The literature indicates that SGDV supports and enhances student engagement (Henderson et al., 2010; Halter & Levin, 2014; Rose, Sierschynski & Björling, 2016). However, despite the fact that many researchers cite the creation of digital videos as an effective pedagogical tool, there is a lack of a sound pedagogical framework for simplifying and expediting SGDV projects (Kearney, 2009; Kearney, Jones & Roberts, 2012).

A comprehensive theoretical framework is essential for ensuring the reliability and validity of a research design and for drawing together the research questions with the research findings. This chapter discusses the theoretical grounds for the present research and clarifies the underlying assumptions. The theoretical framework guiding this research draws different strands from several interrelated theoretical concepts: TPACK (Koehler & Mishra, 2009) and strands from relevant theories, such as social constructivism (ZPD, scaffolding), situated learning (communities of practice and authentic learning), and Digital Artefacts for Learner Engagement (DiAL-e).

Overall, the present framework was created on the basis of Kearney's (2011) work, 'A learning design for student-generated digital storytelling'; work by O'Donoghue (2014): 'Producing Video for Teaching and Learning: Planning and Collaboration', and Pritchard and Woollard's (2010) 'Psychology for the Classroom: Constructivism and Social Learning'. A review of these articles helped identify the learning theories, approaches and strategies used by teachers when integrating digital video as an authentic activity into the classroom. The framework addresses the research problem identified in this thesis, which is to understand how learners engage when creating digital videos and how teachers support students' engagement in their own learning.

Social constructivism and situated learning were discussed in Chapter Three and so this chapter will now introduce TPACK and DiAL-e, incorporating other concepts, such as communities of practice, ZPD and scaffolding to develop the SGDV learning design. These theories were selected, because

they have been used to study concepts that relate to what is explored in this thesis, namely student engagement. These theories provide different ideas in response to the research questions. Therefore, an amalgamation of all these theories and related concepts contributed to the development of an original, pragmatic, theoretically informed framework (the SGDV Learning/Pedagogical Design), thus effectively representing the real-life authentic learning situation being explored here. The following sections discuss how the theories and concepts were used to formulate the theoretical framework, in order to meet the needs of the research.

4.2 TPACK and the Effective Integration of Technology into the Classroom

With widespread development in the field of technology, learners and educators are more enthusiastic about finding a purpose for technology use in the field of education. It is claimed that the higher education sector is powerless when it comes to keeping abreast with the emerging technologies used by students for both socialising and learning (Attwell & Hughes, 2010). The reason for this may arguably be due to the belief that students "are creating their own learning spaces, blending virtual with face-to-face, and formal with social. Informal collaboration is widespread, often facilitated by technology that is under learners' ownership and control" (Beetham, McGill & Littlejohn, 2009, p.24).

Nearly two decades ago, Dockstader (1999) demonstrated that the process of integrating technology is in itself a tedious task, as it includes several levels of complex processes, such as understanding the technology, utilising the technology for the learning and teaching process, and eventually integrating it to enhance students' learning. Although this situation has not changed, it is held by some that the integration of technology alone is insufficient, because most teachers either struggle to use it or lack the skills to use it effectively and efficiently, thus restricting integration and educational effectiveness (Koehler & Mishra, 2009; Hammond, 2013). According to Beckett, Marques-Chisholm and Wetzel (2003), the most important component that facilitates the effective integration of technology is the teacher. Teachers should not only be aware of the

technology and have the necessary skills to use it, but they must also demonstrate knowledge of content and pedagogy (Koehler & Mishra, 2006; 2008).

However, teachers can overcome the challenges they face when using technology through the application of technological pedagogical content knowledge (TPACK), which is considered to be the basis of effective teaching via technology (Koh, Chai & Tay, 2014). By making connections with their technological, pedagogical and content knowledge (Mishra & Koehler, 2006), teachers can acquire comprehensive knowledge of how best to use technology for teaching. TPACK was developed by building on Shulman's (1986) Pedagogical Content Knowledge Model. Initially Shulman's concept was merely a knowledge framework that teachers needed, in order to be able to effectively combine pedagogy (how to learn) and content (what to learn), so that their teaching would be enhanced. Mishra and Koehler (2006) introduced the concept of Technological Pedagogical Content Knowledge (TPCK) and later referred to it as TPACK, thus better reflecting the interdependence of the three contributing knowledge domains (TK, PK and CK) (Fisser, Voogt, Van Braak & Tondeur, 2014). Mishra and Koehler (2006) included technology in the concept, so that it could be used as an approach to understanding the knowledge required for effective technology integration (Koehler & Mishra, 2009). This theoretical framework can be used to examine and understand the essential forms of teacher knowledge required for the effective integration of technology into the classroom (Mishra & Koehler, 2006; 2007).

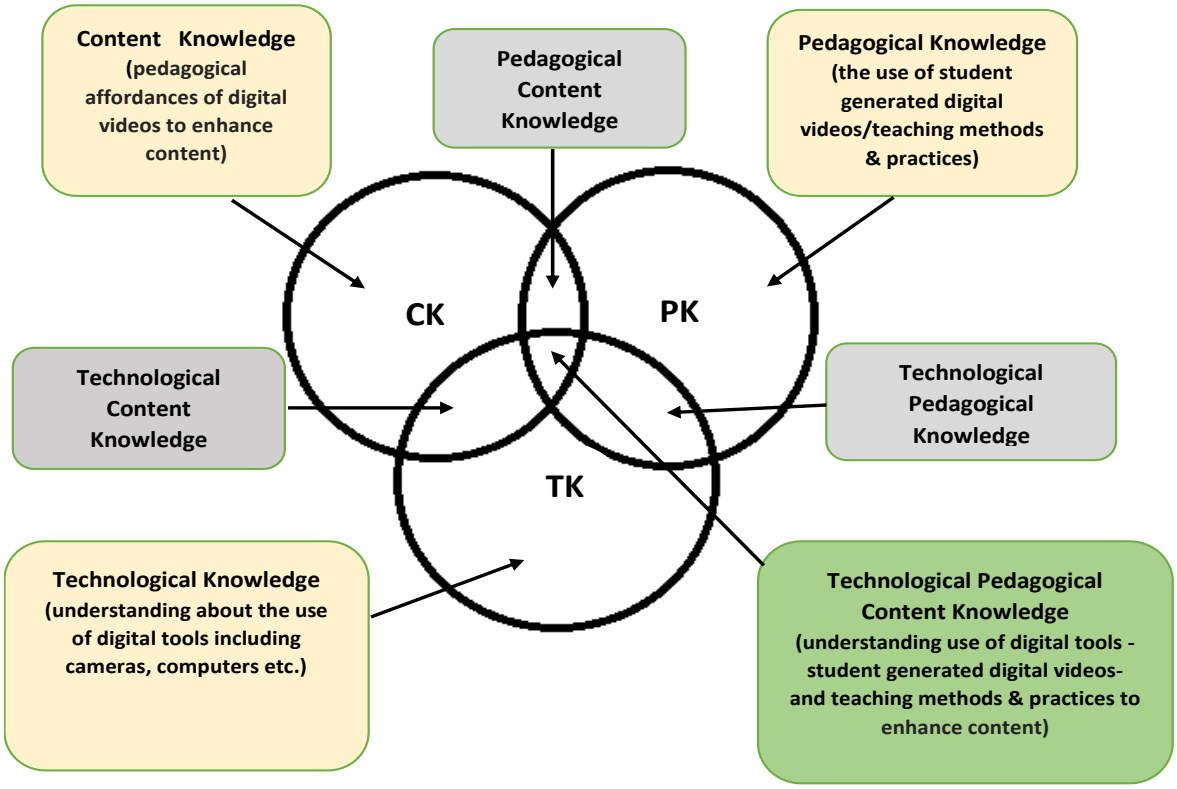

Figure 2: The TPACK Framework (source: Koehler & Mishra, 2006; 2008)

Evidence suggests that TPACK, which underpins teachers' overall pedagogical decisions, emerges when teachers collaborate and design lessons (Mishra & Koehler, 2006; Koh & Chai, 2016). TPACK allows teachers to understand the pedagogical problems that they face when integrating technology. It comprises seven kinds of knowledge required for ICT integration (see Figure 2) (Koehler & Mishra, 2006; 2008). The literature suggests that the TPACK Framework can be used to prepare teachers and in teachers' professional development programmes focused on technology integration (Doering, Veletsianos, Scharber & Miller, 2009).

Research from Kuwait has examined how pre-service teachers (Science teachers) develop and apply TPACK at PAAET. These pre-service teachers worked interdependently in teams to find solutions to a real-life educational problem (Alayyar, Fisser & Voogt, 2011). It was evident from the findings of the above-mentioned study that the teachers who completed surveys reported greater gains in almost all the core knowledge domains related to TPACK. Nevertheless, there was no significant

difference in terms of content knowledge. The researchers also explored whether blended learning would support the development of TPACK in another study conducted at PAAET (Alayyar, Fisser & Voogt, 2012), which also used self-reporting questionnaires. The results confirmed the findings of their previous study (Alayyar, Fisser & Voogt, 2011), namely that when teachers come together on a common platform and work in design teams, they are more capable of developing TPACK.

In the context of Kuwait, other studies have also explored in-service teachers' beliefs, knowledge and skills in using technology for teaching. Mohammad (2014) used a case study approach and collected quantitative and qualitative data from nine in-service teachers on their experiences of integrating ICT. The results suggest that teachers were in need of good quality continuous professional development programmes, in order to improve their pedagogic practice. The findings of the above study corroborate the results produced by Alayyar, Fisser and Voogt (2012), which demonstrated that in-service school teachers lacked technological, pedagogical and content knowledge, and adequate skills in using technology. It could therefore be concluded that a lack of continuous professional development programmes can negatively affect teachers' attitudes to technology integration.

Meanwhile, Alhashem and Al-Jafar's study (2015) investigated technology integration amongst female Science teachers in Elementary schools in Kuwait, using a concept map and rubric based on the TPACK Model. The results of the survey and in-depth interviews suggest that the government-mandated curriculum was unsuitable for technology-enabled instruction. These findings validate Mohammad's (2014) results, which indicated that teachers were unfamiliar with the pedagogy for using technology to teach Science. The teachers consequently found themselves in a situation that disempowered them, as they are neither able to teach what was relevant, nor meet the needs of their students.

4.2.1 Benefits and Limitations of TPACK

TPACK is claimed to be user-friendly. According to Doering et al. (2009), the three domains of a teacher's knowledge, namely technological, pedagogical and content knowledge, are easily distinguishable and both teachers and researchers can incorporate them into professional development without much difficulty.

TPACK is a research framework that guides teachers' knowledge assessment and development, as well as actual technology integration into a real-world classroom (Doering et al., 2009). Another benefit of using TPACK is that it allows teachers to make thoughtful decisions over the choice and integration of the technology that will best suit their teaching and students (Oberdick, 2015). However, TPACK is not without drawbacks. Angeli and Valanides (2009) claim that the framework lacks theoretical lucidity, as there are too many definitions and these definitions are not clear. Another assertion is that it is difficult to understand the constructs associated with the framework and it therefore warrants considerable theoretical development (Graham, 2011).

One of the limitations of the TPACK framework is that self-report surveys and performance-based evaluations are used to measure teachers' technology integration skills. However, these surveys are often very general in nature and therefore inappropriate for measuring a teacher's self-perceived TPACK, or the affordances of a technology to support student learning (Fisser et al., 2015). Bibi and Khan (2017) argue that surveys only require responses to specific questionnaire items and so it is difficult to discover how teachers exploit these knowledge domains in the classroom during their teaching. In order to overcome such limitations, TPACK can be investigated in ways other than through self-reported data (Schmidt, Baran, Thompson, Mishra & Koehler, 2009), namely through interviews (Harris, Grandgenett & Hofer, 2010) and a combination (mixture) of quantitative and qualitative methods (Sancar-Tokmak, 2015). Although observations are not commonly used in TPACK studies (Tai & Crawford, 2014), the current research adds data gathered through real-life observation to information collected from interviews, focus groups and questionnaires.

4.3 Digital Artefacts for Learning Engagement (the DiAL-e Framework)

A digital artefact is any type of electronic media, for example text, an audio-file or video clip. It can also refer to SGDV. Consequently, this thesis also uses the Digital Artefacts for Learning Engagement (DiAL-e) framework to develop a conceptual model that captures student engagement when creating videos, based on the beliefs of students and lecturers about teaching and learning and how those beliefs influence the integration of SGDV to support students' engagement in their own learning. To show that the present research is also grounded in ideas from DiAL-e, the current framework was adopted. The rationale for using DiAL-e was derived from the researcher's expectation that the framework would provide useful insights into learning processes when creating videos.

The DiAL-e framework (Burden & Atkinson 2008; Atkinson, 2009) adopts 10 overlying learning design categories to describe how students can actively and cognitively engage with their learning and create artefacts, such as SGDV. The research shows that lecturers gain value from using this framework (Burden & Atkinson 2008). The 10 learning design categories were adapted to construct a conceptual model in support of lecturers identifying the pedagogical affordances of SGDV and using it to enhance learner engagement.

According to the DiAL-e framework, students are more engaged when lecturers use strategies to increase interaction between the students themselves and between students and faculty members; to provide opportunities for learners to form groups, collaborate and carry out tasks through cooperative learning; to encourage learners to use active learning strategies (for example experiential learning, hands-on learning and learning by doing); to provide timely open-ended feedback after reviewing the videos, and to address the students' varying needs (Burden & Atkinson 2008; Atkinson, 2009). The 10 strategies advocated by Burden and Atkinson (2008) consist of stimuli or motivation; the provision of narrative feedback; the opportunity to author or create artefacts; empathy with learners; the encouragement of interaction and collaboration; the

conceptualising of artefacts; the promotion of enquiry-based teaching and learning; urging students to engage in research, and the use of figurative representations to model and interpret concepts.

The proposed framework incorporates these strategies, which instructors can use to design activities and tasks focused on helping students to learn and create SGDVs. Thus, an integrated SGDV can act as a powerful stimulus and enhance student engagement. Besides, instructors can provide narrative feedback or information, which will in turn help improve students' comprehension of the video-production process. Digital video projects are also a definitive example of applied learning. When creating videos, students have the opportunity to apply what they have created to their lives, both personally and professionally.

The integration of SGDV encourages students to see the world from alternative perspectives. The collaborative activities primarily enable them to learn through dialogue and by examining different perspectives. In the process, they become more knowledgeable, autonomous and empathetic in their learning. Additionally, the framework suggests that SGDV encourages on-topic interaction and collaboration. Peers and lecturers therefore facilitate the construction of knowledge and understanding.

Digital video projects involve group activities, student discussions and peer-learning, which are critical to the development of thinking skills. By increasing opportunities for learning about video-making concepts and procedures, instructors facilitate students' understanding of complex ideas by giving them examples of similar situations. A lesson designed through the integration of SGDV also allows students to use their project to investigate real-world questions. Moreover, they learn how to use the available tools or technologies to create videos. In other words, SGDV promotes enquiry-based pedagogy and constitutes a research-engaged learning process that encourages students to seek and discover. Instructors - in the role of facilitator - use representations from textbooks and other sources to enhance meaning-making while teaching the Instructional Television module. This also involves showing video-cases to trigger student reflection. When the

students reflect on these figurative representations, such as real-world examples and analogies, they are able to resolve the problems associated with photography, editing and video production.

The creative challenge of using videos for practical learning on the Instructional Television module can prove engaging for students. It will also cause them to acquire a range of film-making skills and abilities (for example, skills in research and analysis, working collaboratively, problem-solving, technology use, and organisation), which will be relevant and helpful later on in their professional lives. Based on the DiAL-e framework, the proposed SGDV Model suggests that digital video production enhances student engagement. Instructors can use some of the dimensions of the DiAL-e framework to design authentic learning tasks. In this way, the DiALe framework can support the pedagogically effective use of SGDV.

4.4 The SGDV Framework

Each of the theories/concepts discussed above (TPACK and DiAL-e) and in the previous chapter (social constructivism and situated learning) provides a partial understanding of how lecturers enable students to engage in their tasks when creating videos and encourage them to reflect upon their discoveries.

The proposed SGDV framework (Figure 3) is a four-stage learning design, which includes various phases of film-making. These stages comprise the development of ideas, planning and organisation, creating, discussion, and reflection. However, the four stages are preceded by the initiation phase, where teachers make a preliminary assessment of the situation, decide on SGDV integration, determine the course objectives, identify potential courses of action, and commit themselves to the change process. Nevertheless, teachers may have to take into consideration some important factors before implementing the SGDV learning design in the classroom. For instance, they must consider students' previous experiences, knowledge and skills, as well as their readiness or capability. They will also need to identify the students' needs and the difficulties they face. Next, the size of the group for the classroom activities must be determined, i.e. whether individual,

paired, small group or whole class. Here, pairs or small groups are considered ideal, as students can participate in cooperative learning structures. The proposed framework posits that teachers need to exhibit collaborative and collegial practices that are focused on encouraging students to participate in communities of practice.

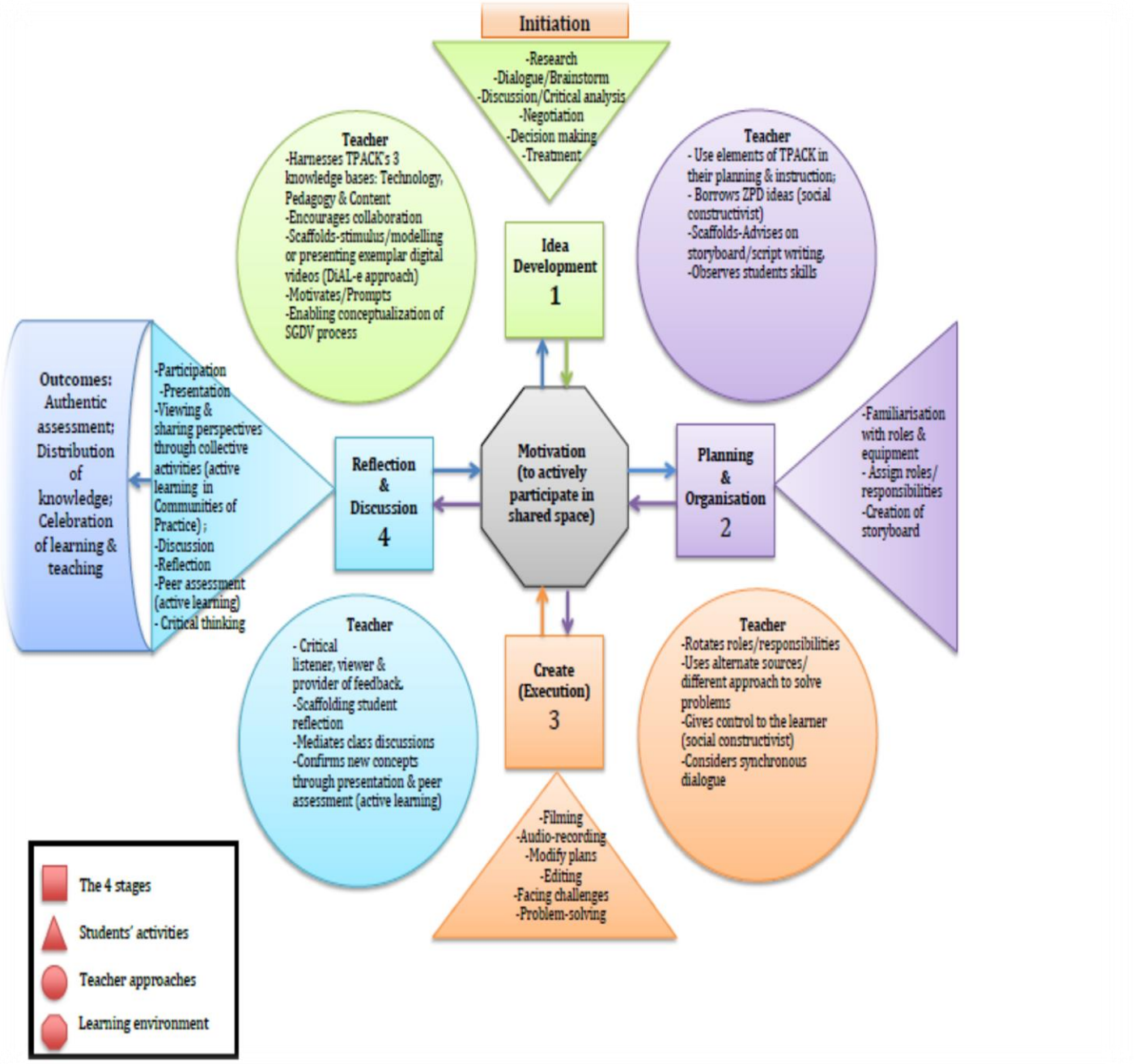

Figure 3: The SGDV Model of Student Engagement

Moreover, SGDV involves numerous activities, whereby teachers will need to clearly and effectively explain the nature of the task, its conditions and the accompanying procedure to the students. For instance, students may have initial expectations of SGDV and this could include a desire for knowledge of the activities or tasks, or for responses to their questions on the availability of cameras and editing software, as opposed to their own mobile phone cameras and any type of editing software. Additionally, tasks that motivate students to collaborate, share solutions, review each other's work and create videos may not only improve students' learning, but also their reflective, critical and creative skills. This suggests that social constructivist theory has important implications for understanding the processes involved in reflective thinking and in designing learning activities that support student engagement.

4.4.1 Stage 1: Development of Ideas

It is ideas which begin the process of making videos. The development of ideas is therefore at the core of the pre-production phase, whereby students structure their ideas into a script.

Students' Activities:

Students generate creative ideas for their videos, participate in *brainstorming* sessions and arrive at *mutually-acceptable* decisions. These ideas will relate to the title of the video, the intended audience, importance, style, outcomes and any problems that they may encounter when creating the videos. During the brainstorming sessions, the students will engage in positive dialogue; analysing and criticising their ideas and building upon the schema that they have already developed. The evaluation process then involves research; for instance, watching a series of video clips. Each of these will have been produced in a different way, but relating to the same subject. The process will thus enable the learners to understand how others make videos. At the end of this stage, each group will be involved in planning; for example, grouping sequences (both audio- and video), arranging storyboards and scripts, engaging talent, organising equipment and planning locations (O'Donoghue, 2014).

Teachers' Strategies:

Ideas are developed in the case of educational videos, with a special focus on assisting learners to attain their learning objectives (O'Donoghue, 2014). Teachers harness the integration of SGDV into the classroom (using TPACK), and stimulate pedagogical ideas related to video pre-production by encouraging collaboration (social constructivism) and modelling (DiAL-e). According to the proposed framework, modelling or stimulus is the process of showing examples of videos, so that students can understand the tasks involved and eventually create their own films. However, teacher modelling will only be successful if there is interaction and if teachers promote the substantive discussion of ideas, practices or issues. These discussions will provide the students with direction, so that they will know how to approach their tasks. This also shows that dialogue and student-teacher interaction are crucial. According to Van Harmelem (2008), "social constructivism has as a central precept that knowledge is created by learners in the context of, and as a result of social interaction" (p.36). Teachers whose beliefs and practices are influenced by social constructivism are aware of students' social skills and provide adequate opportunities for genuine dialogue and social interaction. Teachers also use scaffolding strategies to support modelling through prompts, real-world examples and analogies to provide stimulus and engage students in critical thinking. At times, scaffolding or 'ad hoc' interventions may need to be introduced, without any planning, in order to enable the SGDV process to be conceptualised. Therefore, teachers can be seen as motivators, who wish to encourage learners to generate creative or unique ideas, or to redirect the learners' thinking.

Scaffolding, as an instructional strategy, can offer students more learning opportunities in this situation, such as the chance to author, whereby students create videos through the ingenious use of technology; the chance to exercise empathy, which is the ability to understand group emotions and nurture collaborative relationships with fellow team members; encouragement to search and discover; reflection on representations, and the chance to compare, so that they can determine

whether there are any differences, similarities or relationships between approaches when making videos. All these are dimensions of the DiAL-e framework.

By providing stimulating materials, teachers not only challenge the students' ideas, but also maintain the learners' potential level of development and promote their interest in the task. Teachers with an understanding of how to apply the concept of ZPD in the classroom and use corrective feedback, irrespective of the students' ZPD, can improve the learners' knowledge of how to create videos. In other words, if students are taught by applying and/or activating their ZPD, they will be better equipped to internalise the tasks associated with SGDV and will consequently do so in greater depth to produce more successful outcomes. In this way, teachers will be able to bridge the gap between what a learner can do without help and what a learner can do with assistance. In other words, teachers can provide the necessary scaffolding, consisting of measured and appropriate interventions, to help students accomplish tasks that they would otherwise be unable to complete. They must then progressively withdraw their support, so that the students' abilities grow. This teaching strategy originates from socio-cultural theory. However, if teachers are to coach and scaffold students, assisting learners in their learning from start to finish, they will require SGDV-related lesson ideas, Pedagogical Content Knowledge or a TPACK element. This knowledge is necessary for encouraging students to think the process through and develop a declarative understanding of video pre-production.

4.4.2 Stage 2: Planning and Organisation

The planning and organisation stage, or the pre-production phase, follows the phase when ideas are developed. This second stage involves preparation and exploration.

Students' Activities:

During this stage, the initial ideas are refined. Here, students create video and audio-sequences, or give a narrative description of the video project (referred to as 'treatment' or 'sequence planning'). They familiarise themselves with video-production processes and techniques (audio-recording, camera equipment, identifying the necessary shots, photography, filming, and editing software). They consequently plan their use, draw up an inventory of the technology/equipment required and plan the location for shooting. Moreover, they assign responsibilities to each group member; for example the role of director, script writer, cameraman/woman, actor or editor. During this pre-production stage, the students create storyboards to sequence each scene and a production schedule. In other words, they develop adaptability and resourcefulness. They also use their previous experiences and skills to learn new skills for this project and *overcome* challenges. The group's activities at this point emphasise *collaborative* and *cooperative* learning, which will help the participants gain new knowledge of how to use equipment. This stage also involves discussion, reflection and sharing experiences with the whole class.

Teachers' Strategies:

In the ideas development stage, the teacher coaches and scaffolds, using sample storyboards or scripts that were previously created by students or sourced externally. The teacher also advises on the fair use of media and provides a rationale for considering the use of Creative Commons, which is a procedure for using images with correct attribution. During this stage, teachers can also have a say in the students' roles and responsibilities.

A proper plan is required to achieve the lesson objectives. During the planning stage, teachers determine the lesson objectives and the tasks that students must accomplish. They also need to ensure that groups accept accountability for their role in the plan. The involvement of teachers in the planning and organising stage is crucial for determining what equipment will be required; for example, cameras, the appropriate lenses, the lighting plan and support equipment to achieve the desired shots (Theodosakis, 2009). They must also convey the need to plan a more realistic timeline

for completing the video. It is the teacher's responsibility to enable students to explore and gradually fade out their support, so that the students become more autonomous learners. In this process, teachers therefore transfer responsibility to the students (Collins & Kapur, 2014). However, the literature suggests that teachers who adopt a social constructivist approach must have an understanding of their students' skills, before providing any support or scaffolding (Pritchard & Woollard, 2010).

4.4.3 Stage 3: Creating or Executing

This is the stage where the video has been produced, either by an individual or a group, and must be edited. The students create their videos, after the teachers have reduced their participation in the video project. It is therefore the students who have acquired the necessary skills who set about executing their video project.

Students' Activities:

This is the production stage, where students execute their ideas and plans. During this stage, students may need to alter or modify their plans and consider realities on the ground, due to various reasons, such as other group members deviating from the original plan, equipment failing to function correctly, inclement weather on location, or failure to obtain permission to shoot at a particular location (Theodosakis, 2009; O'Donoghue, 2014).

All through this stage, students must make multiple decisions and modify their plans in the face of unforeseen circumstances. Decision-making is a fundamental part of communication. Likewise, the communication of ideas is crucial when creating videos. Students are faced with challenging situations while recording/film-making, but they will be able to manage uncertainty and solve problems if they communicate and make collaborative decisions. A failure to make timely decisions can result in video sequences that are disjointed or incoherent. The final product might not flow smoothly (for instance, there may be shifting image and audio-elements), contrary to what was

envisioned during the planning stage. In order to ensure that the videos flow smoothly and are well-organised, students must therefore acquire and master editing skills.

Video-editing is a major part of the post-production process, whereby the students edit the captured footage, change sequences, include narration, add audio-effects, and display opening and closing credits. The editing will allow the students undertaking the video project to bring together apparently incongruent items and create a cohesive story. However, the question remains, do all the students possess adequate skills and time to edit a video?

Teachers' Strategies:

It is possible that that the students will be unable to make a film of satisfactory quality, if they lack adequate skills or the time to edit the video. This will result in compromises being made in the end product. It is claimed that "such compromises make demands of students' decision making and strategic planning skills and may ultimately compromise the video resource they wish to create" (O'Donoghue, 2014, p.144). This suggests that during the editing stage, students may need some assistance; for instance, adding captions, audio-voiceover, graphics or animation, and matching consecutive frames for the same scene. Despite this, teachers can provide support or scaffolding to help the students manage problems in the editing stage.

Another issue that may arise is students being willing to follow the plans and instructions of high-ability peers, who are more likely to take a dominant role in the video-production activity, even though it is intended to be a collaborative group project. In this case, it will be difficult to understand what the students will learn from the activity, as all the students may assert that they have teamwork and communication skills (as in the present case). It is therefore, the teacher's responsibility to assign and rotate roles and responsibilities, based on the students' skills and past experience of video production. Because of the challenges faced by students at this stage, teachers must foster peer-interaction between them and consider engaging in synchronous discussions (for instance, using chat apps in a project-based discussion activity), as a means of scaffolding the students and providing real-time feedback. Synchronous learning activities nurture problem-solving

through reasoning and discussion and it is claimed that teachers who use these approaches can break down enormous tasks into smaller, more manageable ones, which can then be more easily tackled by students (Pritchard & Woollard, 2010). As editing is a crucial post-production activity, synchronous discussion at this stage can foster an environment that allows learners to take control of the learning process.

4.4.4 Stage 4: Discussion and Reflection

This final or post-production phase involves presentation, discussion and reflection. Discussion and reflection play a key role at every stage of video production, as they are crucial for clarifying tasks and ensuring that the students can proceed further, or else identifying when they need to return to the first stage. Reflection can take place during planning, where it is classed as 'anticipatory' and involves research and learning; during production, where it is referred to as 'contemporaneous' and involves analysing existing videos, or at post-production, which is considered to be 'retrospective' and consists of discussion and sharing the ideas and perspectives of the audience or group members (Zhang & Xiao, 2013).

Students' Activities:

In the post-production stage, students reflect on their progress by interacting with their teachers and the rest of the class, via online platforms or face-to-face in the classroom, in order to gather comments and feedback on their plans and treatment. This will allow the students to compare their work with the initial ideas, not only at the post-production stage, but also at every other phase of the project. On this basis, the students will refine their plans, especially the script and storyboard.

The post-production stage involves presentation, where the students will present their videos to be viewed and reviewed by fellow group members. Unlike other classroom

projects or assignments, the final work or end product is seen and inspected by other students and by the teacher, who will assess their work. Therefore, the prospect of viewers examining and commenting on a students' video can be a stimulus that motivates participants who believe that they have been successful in their video project, but it will become a matter of concern to others who have been unable to produce a coherent video. Students-as-producers, when presenting their videos, will have the opportunity to welcome comments from the audience; consider the perspectives of students-as-viewers; recognise flaws in the techniques used; discuss and reflect on what they have produced, and remember some of the new ideas emanating from the discussions, so that they can be used in future production. These discussions are basically articulations, which the students (as producers and viewers) make explicit during this stage, so that as members of a community, they can refine and use them to further expand their understanding.

Teachers' Strategies:

Teachers who integrate videos and develop TPACK do so to engage students in a process of discussion, modelling, practice, self-analysis and reflection, which are crucial for enhancing student engagement (Zhou, Xu & Martinovic, 2016). The teacher's responsibility here also involves scaffolding students' reflection by prompting the learners to 'think ahead', instead of thinking back to the past (Michalsky & Kramarski, 2015). Teachers can even scaffold reflective thinking applied to SGDVs. In this way, teachers will be able to understand what their students have learnt from the video-production activities. This can be achieved by showing students exactly what process they must use to accomplish a task, prompting them to take certain steps, explaining how the teacher would solve a particular problem through modelling, and encouraging the learners to engage in dialogue, so that multiple perspectives and feedback can be reflected upon.

This scaffolding represents effective instructional strategies that support various forms of reflection when creating videos. O'Donoghue (2014) advocates that teachers use structured reflection, so that students review the finished product in terms of the ideas developed at the pre-production stage, in relation to what they have ultimately achieved; assess and apply earlier comments and suggestions from peers or teachers; critically examine the student-as-producer's views and understanding of the video and its content; revisit their planning activities and focus on how to improve the quality of their videos, and evaluate the skills (technical, social, management, communication and problem-solving) that they feel they have gained or developed as a result of the project.

In this stage, the teacher is a critical listener, viewer and provider of feedback. He or she will confirm the new concepts through presentation, peer-assessment or comments. Teachers not only need to create a motivational climate in the classroom, where students can introduce their videos before they are viewed by others, but must also ensure that the presentation is organised, structured and constructive (O'Donoghue, 2014). Moreover, they need to set realistic deadlines for completing the video. Therefore, teachers should manage or mediate classroom discussion and ensure that their students understand how the videos they have created are an integral part of their pedagogical content knowledge (Jansen & van der Merwe, 2015). This will be achieved by teachers through discussion, demonstration, presentation, and the exchange of ideas.

4.5 Outcomes

The proposed framework identifies three types of outcome, namely authentic assessment, distribution of knowledge, and the celebration of learning and teaching. The integration of video production and asking students to perform authentic tasks will motivate learners and provide them with an opportunity to engage with real-life conditions or situations. Teachers use authentic

assessment to promote student engagement. Authentic assessment encourages the integration of teaching, learning and assessment. Unlike traditional assessment models, however, authentic assessment does not test students, in order to check whether they have acquired knowledge or skills after a teaching and learning process. In fact, tasks relating to the authentic assessment model, such as real-world problems, are assigned to students, so that they can accomplish them by applying their knowledge or skills. Teachers facilitate this process by enhancing student engagement and most importantly, by identifying ways of engaging students in reflection. The students' solutions to the problems faced when attempting to create the videos become a demonstration of how well they have been able to meaningfully apply what they have learnt from the teacher's scaffolding (for instance, examples of videos). Some methods of assessing students via authentic means include giving them opportunities to create, edit and recreate videos that will enhance student learning. In other words, SGDV can be used to motivate students through authentic scenarios and tasks, as well as assessing their learning in an authentic manner.

Students engaged in video-production activities necessarily share knowledge and develop a common understanding of the tasks involved. The knowledge and skills possessed by learners in communities of practice are thus distributed; with members of the group entering the community, adopting practices, and engaging in solving a problem. Knowledge is therefore not concentrated in an individual, but is rather distributed across all members of a group. In this way, students can take collective responsibility for the success of a group while creating a video. In addition, group members will be motivated to achieve common goals, with a shared awareness of their objectives. However, this distributed knowledge needs to be coordinated and integrated (Kimmerle, Moskaliuk, Oeberst & Cress, 2015), with teachers playing a key role in mediating the actions of the group.

The completion of a video created by students involves reflecting on past experiences, and understanding the concepts, processes and examples or models provided by teachers. The success of a digital video project will then culminate in a celebration of learning and teaching for students

and teachers. SGDV is ultimately a learning celebration that allows learners to demonstrate strong knowledge of the different stages of making a video by becoming experts through the learning process itself.

4.6 Summary

The main theories underpinning this research comprise social constructivism, situated learning and the DiAL-e framework. These theories collectively provide an interesting set of ideas about how teachers can use SGDV to support students' engagement in their own learning (in response to Research Question One) and about how students engage in their learning, when SGDV is integrated into the classroom (Research Question Two). Moreover, these theories can influence the development of the SGDV Model of student engagement. The proposed framework places an emphasis on exploring lecturers and students in their natural setting and adopts a holistic approach to investigating how the integration of SGDV can enhance student engagement.

It is claimed that behaviourist teaching approaches are adopted when incorporating technology in teaching (Chen, 2009). However, in the learning design proposed in the present thesis, the researcher relies on social constructivist perspectives and related concepts, such as ZPD. Activities associated with SGDV are complex and socially situated. The theoretical base adopted subsequently helped create a useful framework for making sense of the complex teaching and learning activities involving lecturers and students in a socially-situated phenomenon. This suggests that student engagement in a digital video project is a situated phenomenon. The current framework also proposes that student engagement is essential to constructive learning outcomes. The following chapter offers a logical explanation of the choice of paradigm for this study and focuses on the methodology and methods selected. It also maps the ideas in the conceptual framework and relates them to the research questions, questionnaire items, interview questions and items in the observation protocol.

Chapter 5: Research Methodology

5.1 Introduction

The purpose of this research is to investigate the use of SGDV in higher education pedagogy, in order to enhance student engagement in learning activities. This chapter describes the research paradigm adopted, the theoretical perspectives of the researcher, the methodology selected for the study, and the methods used for data collection and analysis. The overall research design is a qualitative case study, as the aim is to examine how students engage in learning activities and how lecturers support them through engagement strategies. Additionally, this chapter includes a detailed description of the study participants, justifies the selection of specific data collection and analytical (abduction) methods, and summarises the overall research design.

This chapter includes sections dedicated to a description of the research design, starting with a pilot test. Aside from this, ethical considerations were taken into account, bearing in mind any potential threats to the participants and the integrity of the study. The method of data analysis was subsequently explained and then the chapter was summarised, with a brief outline of the overall research design and methodological approach.

5.2 Research Design

The present study is a predominantly qualitative evaluation, because the researcher's intention is not to predict or collect numerical data, but to use perceptual schemes to develop a deep understanding of the use of SGDV to enhance student engagement in learning activities. The qualitative approach adopted in this study, consisting of a pragmatic case study research design, focuses on endeavouring to understand the phenomenon being explored. This methodological framework is referred to as an abductive mode of enquiry (Peirce, 1998) and it involves a researcher beginning with his or her own beliefs and perceptions and then exploring the active interplay between these, the research data and various theoretical frameworks, with the objective of

developing a better understanding of the phenomenon being investigated (Mantere & Ketovki, 2013; Martela, 2015).

5.2.1 Identifying the Paradigm

A paradigm is essentially the worldview, or the beliefs and values of the researcher underpinning the choice of an appropriate method or methods applied to a research study (Huitt, 2011). A positivist paradigm that subscribes to scientific methods of enquiry involves the generation and testing of hypotheses and the large scale collection of quantitative or numerical data, while the objective of the interpretivist research paradigm is to interpret the meanings or subjective experiences of the research subjects (Denzin & Lincoln, 2011). Post-positivists are similar to positivists, in that they endeavour to be objective, impartial and to ensure that the results correspond to the existing knowledge base. However, post-positivists also differ from positivists, because they acknowledge any bias that may affect objectivity (Doucet, Letourneau & Stoppardet, 2010). Nevertheless, both positivists and post-positivists assume that objective data already exists and is reported by respondents. The researcher's role is then to collect these data for systematic analysis using statistical methods. In other words, the aim is to reduce or deduct observable data (Alvesson & Skoldberg, 2010).

Positivism and post-positivism were not considered for this study, as research conducted under these paradigms is typically quantitative in nature. As the researcher wished to include an in-depth exploration of students' and lecturers' perceptions and perspectives, a qualitative approach was also considered congruent. In order to accommodate assorted methodological stances, a pragmatist stance was subsequently adopted. Pragmatists use both quantitative and qualitative research methods in a single study. Although this approach has resulted in open debate amongst certain researchers, who argue that the two approaches differ both epistemologically and ontologically, both approaches were adopted in the present case to shed light on the problem being investigated. The researcher's ontological position consequently pointed to the use of interviews, questionnaires, observations and focus groups, in order to answer the research questions as fully

as possible. Meanwhile, epistemologically, the focus was on practically applying multiple methods and merging views to interpret the data. The pragmatist epistemology argues that reality exists apart from human experience and as a result, knowledge is socially constructed and all knowledge is based on experience (Doucet, Letourneau & Stoppard, 2010; Morgan, 2007, 2014). As the researcher's worldview emphasises subjective experience and multiple realities, this study was to some extent undertaken with a balance struck between objectivity and subjectivity. Objectivity in research refers to the neutrality of the researcher and the study being free of bias. Therefore, it indicates that a study has not been influenced by the personal values, interpretations, feelings or thoughts of the researcher. Meanwhile, subjectivity refers to the judgements of the researcher and is influenced by personal feelings, tastes or opinions, rather than external facts. Subjectivity guides researchers in the selection of a research topic, in the formulation of hypotheses and research questions, the choice of methodologies, and the interpretation of data. The rationale for balancing objectivity and subjectivity is that pragmatism, which implements abduction, recommends an equilibrium between subjectivity and objectivity in research (Shannon-Baker, 2016). Most importantly, the methods were selected to address 'What?' and 'How?' research questions (Simons, 2009). This suggests that the epistemology and methodology are interlinked.

5.2.2 The Case Study Approach

Case study research has been defined by Simons (2009), as "an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, program or system in a 'real life' context" (p.21). This is similarly claimed by Stake (2006), who states that a case "requires experiencing the activity of the case as it occurs in its context and in its particular situation" (p.2). Qualitative case study research draws together "naturalistic, holistic, ethnographic, phenomenological, and biographic research methods" or "a palette of methods" (Stake, 1995, pp.11-12). Simons (2009) advocates the adoption of a qualitative stance in case study research. For Merriam (2009), however, case studies are linked with a qualitative approach, but she draws upon both post-positivism and interpretivism, while Stake (2006) describes this as a

qualitative enquiry. Meanwhile, Simons emphasises that a case study should not be seen as a method, but rather as a design framework that may integrate a number of methods. Flyvbjerg (2011) supports this, adding that when a case study approach is used, it "does not mean the selection of a method but rather a selection of what will be explored" (p.301). Therefore, this thesis studies a case using different methods and different perspectives.

Case studies are synonymous with terms such as field studies and observational studies, each denoting a specific research method. Researchers use case studies to explore phenomena being studied in more depth (Rowley, 2012). Nevertheless, case studies have been criticised for being of inferior value (Flyvbjerg, 2011); lacking philosophical validation (i.e. ontological and epistemological underpinnings) (Easton, 2010); being impossible to generalise from (Hallberg, 2013; Morse, 2009); lacking in rigour, and giving rise to a biased interpretation of the data by the researcher (Zainal, 2007). In order to address the shortcomings of case study research, Simons (2009) suggests that researchers should carefully formulate the interview questions, so that they are "not intrusive", but rather "respect participants' privacy" and "record participants' views accurately", keeping information "confidential" and avoiding or reducing any bias that might lead to the "unfair selection of data or interpretation" (Simons, 2009, p.101). In the current study, bias was minimised by triangulating the data, which involved incorporating the participants' interpretations with those of the researcher.

5.2.2.1 Rationale for the Case Study Approach

A case study approach was adopted in the present study, because of its flexible and loosely-structured research design (Simons, 2009). The case being examined was the use of SGDV by teachers to support students' engagement in their own learning. Another reason for selecting a case study approach was based on the fact that theoretical knowledge of this phenomenon is limited in Kuwait, the study's context. The rationale for a case study design arose from its capacity to provide an intensive holistic description and analysis (Ponelis, 2015) of the use of SGDV within the context or natural setting of the research. The specific research context in this case was a

teacher-training college in Kuwait, where SGDV was used, with the issue or unit of analysis explored being 'student engagement'. This particular college was selected using a convenience sampling method, due to the researcher's familiarity with the institution.

This qualitative case study facilitates the exploration of the phenomenon (the use of SGDV to enhance student engagement), within its context and using a variety of data sources to ensure that the issue was not being explored through just one lens, but rather through a variety of lenses (different data sources). This allowed for various aspects of the phenomenon to be revealed and understood (Baxter & Jack, 2008). The instruments comprised questionnaires for the students, followed by interviews with both lecturers and students and classroom observations (using a schedule adapted from Schuck and Kearney, 2004). Focus group interviews were also conducted with the students.

Case study research is claimed to be an increasingly popular approach among qualitative researchers (Thomas, 2011). Several qualitative purists have in fact increased the popularity of case study approaches across disciplines (Merriam, 2009; Denzin & Lincoln, 2011; Creswell, 2013). The use of a case study approach in this thesis was considered to be particularly appropriate for exploring the possible effects of SGDVs on enhancing student engagement in a natural setting. This is because case studies are suitable for studying the problems or effects that a specific case (a class being taught by a teacher) encounters when it applies innovative technologies in a classroom (e.g. Seppala & Alamaki, 2003; Young, 2003).

5.2.2.1.1 Determining the Type and Design of the Case Study

Case studies have been categorised as explanatory, exploratory or descriptive and suitable for addressing 'How?' and 'Why?' research questions (Hughes, 2014). An explanatory case study is used if a researcher is seeking to answer a question that will attempt to explain the presumed causal links in real-life interventions, which are too complex for a survey or experimental strategies (Baxter & Jack, 2008); for example, a study on the effects of an intervention on young drug-addicts. An exploratory case study, however, is used to explore situations where the intervention being

evaluated has no single clear set of outcomes (Baxter & Jack, 2008); for example, an observational study examining the development of a student-teacher relationship. Meanwhile, a descriptive case study is used to describe an intervention or phenomenon and the real-life context in which it has occurred (Baxter & Jack, 2008), such as attempting to understand the needs of children with dyslexia. The current study is exploratory in nature, because its purpose is to explore and understand the use of SGDV in its natural setting, without controlling or manipulating the lecturers and students involved. Exploratory research can address 'What?', 'How?' and 'Why?' research questions. Moreover, emerging literature on the use of SGDV is limited and not yet mature.

A qualitative approach

> *…explores a real-life, contemporary bounded system (a single case) or multiple bounded systems (multiple cases) over time, through detailed, in-depth data collection involving multiple sources of information... and reports a case description and case themes. (Creswell, 2013, p.97)*

In the current study, a single case study approach was adopted, in order to gain a better understanding of the use of SGDV by a group of students in classrooms at a higher education institution.

5.2.2.1.2 Determining the Case or Unit of Analysis

In determining the case or unit of analysis, the researcher in this study initially pondered over whether (a) to analyse the students and lecturers as individuals or as a group, or (b) to analyse how the students engaged in a simulated real-world environment, how they learned, or how they used technology in such an environment. The research questions guiding this study were formulated as follows:

How do lecturers use student-generated digital video (SGDV) to support students' engagement in their own learning?

How do students engage in their learning when incorporating SGDV in the classroom?

What are students' self-reported beliefs about SGDV as a tool for engaging in learning activities?

In light of these guiding research questions, the issue to be explored is 'student engagement', which is defined as student's eagerness, interest, need, and desire to actively participate in, and be successful in, the learning process. In defining the case, the researcher wishes to make it clear that the aim is to examine how students engage in learning activities, how lecturers support students through engagement strategies, and the students' beliefs about SGDV as a tool of engagement. In essence, this study is concerned with studying how students engage in their learning and how lecturers support student engagement.

5.2.2.1.3 Determining the Data to Be Collected

Case studies are said to allow the collection of both qualitative and quantitative data to build a comprehensive understanding of a case (Stake 1995; Yin 2014). In this thesis, which adopts a case study approach, rich qualitative and quantitative data were collected in relation to the case, in order to gain a better understanding of the research problem from a subjective point of view (Ponelis, 2015). The types of qualitative data collected were chosen based on the nature of the case, feasibility issues, and the research questions. The case study approach used for this thesis is expected to provide details of the students and teachers' activities, approaches, outcomes, roles and beliefs in a classroom where technology is used to generate digital videos to enhance student engagement in learning activities.

This case study involves questionnaires, interviews, observations and focus groups. The rationale for selecting these methods is discussed in later sections of this chapter. In brief, the questionnaire was used to gain an understanding of students' self-reported opinions of using SGDV as a learning tool. Qualitative data (from interviews, observations and focus groups) were used to gain a richer, broader picture of the situation. These methods were chosen to establish a clear picture of how teachers use SGDV in the classroom. The researcher made use of data sources, such as participant interviews and observations of interactions taking place in a natural setting (Stake, 1998). By incorporating the aforementioned data collection methods into this case study, the researcher was

able to enrich the data and thus answer the research questions. As mentioned previously, the questionnaire data were analysed qualitatively and so the overall research design was considered as a qualitative case study, with the unit of analysis being student engagement. By focusing on student engagement, the researcher was able to examine in detail the perceptions, observations, and behaviour of lecturers integrating SGDV and of students creating videos.

5.2.2.2. Rationale for Adopting a Pragmatic Approach within the Realm of Abductive Research Logic

The rationale for adopting a pragmatic qualitative case study research design was that it provided an opportunity to gain an in-depth understanding of the use of SGDV to enhance engagement and learning. In order to justify the methodological approach of pragmatism for research, it is essential to understand its theoretical background. Pragmatism is considered to have been originated by the 19th century philosophers, Charles Sanders Peirce, William James, John Dewey and Herbert Mead (Parvaiz, Muft & Wahab, 2016).

	Quantitative (Positivism)	Qualitative (Interpretivism)	The current study (Pragmatic case study
General framework	• Seek to confirm hypotheses about phenomena • Instruments used are rigid and highly structured (example questionnaires, surveys and structured observation)	• Seek to explore phenomena • Instruments use more flexible • Use semi-structured methods such as in-depth interviews, focus groups and participant observation	• Exploratory rather than confirmatory • Flexible methods • Use of structured questionnaires and semi-structured in-depth interviews, focus groups and observations
Analytical objective	• To quantify variation • To predict casual relationships • To describe characteristics of a population	• To describe variation • To describe and explain relationships • To describe individual experiences	• Subjective or objective meanings can provide facts to a research question • To describe individual experiences • Not to test hypothesis
Data analysis	Statistical analysis of objective/numerical data	Thematic analysis of explanation, understanding or interpretation of the people and situations being investigated	Descriptive statistics and thematic analysis to understand and interpret and students' beliefs about use of student-generated digital video as a tool for engagement
Flexibility in study design	Study design is stable from beginning to end	Some aspects of the study are flexible (for example, modifying interviews questions)	• Case study is the most flexible of all research designs • No statistical assumptions • Prompts used in interviews/focus groups

Table 1: Paradigms associated with quantitative and qualitative research.as compared to a pragmatic case study research design (adapted from: Mack et al., 2005; Ihuah & Eaton, 2013; Morgan, 2007, 2014)

A pragmatic philosophical perspective and worldview is used in this case study to examine multiple perspectives and real-world experiences. In other words, a pragmatic position was adopted by the researcher to gain an overall picture of the "participants' views of the situation being studied" (Creswell, 2013a, p.8). Although it is claimed that most researchers who adopt this worldview inevitably use mixed methods, this thesis does not accept such typologies as important (Newby, 2010). Nevertheless, a survey, interview, focus groups and observation data were collected and mixed after each type had been analysed separately, in order to answer the research questions. Therefore an understanding of qualitative and quantitative methods was required for this research (see Table 1).

Qualitative research designs began to gain recognition in the 1970s, partly due to debates between proponents of qualitative and quantitative approaches, and in opposition to the domination of the positivist paradigm (Lund, 2012). Qualitative research has been referred to as hermeneutist and it therefore enables researchers to interpret and gain an in-depth understanding of a phenomenon.

Quantitative research (i.e. a positivist paradigm) has traditionally been the basis of social-science research. There are a number of strengths in quantitative research methods. For instance, they are useful for collecting structured and broader information, in the form of numerical data (from questionnaire data). They also enable researchers to feel confident about the representativeness of a sample for broader inferences, using a statistical sampling procedure (Silverman, 2005). However, information gathered from quantitative designs is broad rather than deep, unlike case studies, which permit the collection of both numerical and information-rich qualitative data. Moreover, information gathered using quantitative methods do not explain why things happen. Neither is it possible to reveal the depth of views or experiences in a case by using a questionnaire alone, as its quantitative design may not provide researchers with rich in-depth data.

In positivism, the aim is to use deductive reasoning or start with a theory or hypothesis, and then draw upon observation and confirmation to reach a specific, logical conclusion. On the other hand, the interpretive approach often draws upon inductive reasoning, where the objective is to develop a theory. The deductive approach is applied by researchers to test a theory, while the inductive approach helps explain what is taking place (Saunders, Lewis & Thornhill, 2009). As the researcher's intention is not to classify the research as purely quantitative or qualitative in nature, using either a positivist or interpretive philosophy, but rather to balance deductive and inductive perspectives, a pragmatic approach was adopted here. According to this view, knowledge is first generated through a creative process, followed by considerations of abduction, inferences and confirmation of inductive theory (McKaughan 2008). Moreover, this approach is claimed to be suitable for answering 'Why?' and 'How?' research questions (Saunders, Lewis & Thornhill, 2009).

The current study is shaped by abductive reasoning (Peirce, 1998) and it is more of an exploratory than a confirmatory enquiry. In order to arrive at the best available explanation about the ways in which SGDV is used by lecturers and students, the present researcher was obliged to move back and forth between processes of inductive and deductive reasoning (Morgan, 2007; Merriam & Tidsell, 2016). For example, the researcher used description and interpretation. Meanwhile, the coding process (thematic analysis) involved the consideration of codes from the data itself, as well as existing codes from previous studies. Therefore, the focus was on interpretation rather than on testing hypotheses. The aim was to explore the phenomena to gain a deeper understanding of them (Merriam, 2009; Simons, 2009). Consequently, this case study can contribute to developing new theory by engaging with existing theory at different stages of the study (Rule & John, 2015). The use of abductive reasoning, or moving back and forth between inductive and deductive reasoning (Mantere & Ketovki, 2013; Martela, 2015), presented the researcher with the opportunity to collect different types of data, obtain divergent views, and draw conclusions. For example, the students who participated in the interviews reported that they usually preferred to learn in groups and that they learned best when working with others. The collection of diverse types of data helped to

ascertain that the students favoured collaborative work and this information was gathered through focus groups, questionnaires and observations.

The rationale for adopting a pragmatic approach was to use the method that appeared best suited to the research problem. Moreover, the researcher did not wish to get involved in philosophical debates about which one of the two methods (qualitative or quantitative) was superior. The adoption of this stance gave the researcher the liberty to select and use methods and techniques, after recognising their strengths and limitations, in the realisation that different approaches can be complementary. In fact, for the present researcher, the research questions were more important than the methods used. Another reason for using a pragmatic approach was that it is claimed to be a paradigm for educational research concerned with the application of research to practice (Taatila & Raij, 2012; Morgan, 2014). As this study is concerned with the teaching practices of lecturers and how they integrate SGDV into classroom instruction, it embodies this concept of research into practice. Most importantly, pragmatism is suitable for examining the process of an experience or active learning situation.

5.2.3 Selection of the Sample and Participants

Purposive sampling was used to select the participants, based on the knowledge that it was these students and lecturers who could provide better answers to questions. In other words, they were considered to be information-rich cases (Simons, 2009; Creswell, 2013; Palinkas, Horwitz, Green, Wisdom, Duan & Hoagwood, 2015) related to the current study. The participants selected for the interviews and questionnaires (students and lecturers from a teacher-training college in Kuwait) were all involved in teaching or studying on the Instructional Television module. An information sheet highlighting the significance of the research was distributed to them before asking them to take part in the study. Demographically speaking, almost all the participants were Arab students, exclusively comprising Kuwaiti nationals. The personal details of each participant were not included in this study, due to confidentiality issues. For example, codes were used to identify the students and lecturers. All the participants were full-time students belonging to different age groups. Most

importantly, as they were considered to be 'information-rich cases' (Patton, cited in Merriam, 2001, p.61), it was hoped that evidence of their experiences in the use of SGDV would be seen. The justification for selecting participants from the teacher-training college was to enable the researcher to apply the notion of communities of practice (Wenger, 1998; Attwell & Hughes, 2010). These students were part of a larger community, where collective learning takes place. These communities of practice are useful for revealing how learning takes place and so the knowledge held within these communities can be used to generate research knowledge.

5.2.4 Research Instruments

In this thesis, a number of methods were used to collect data, including questionnaires, in-depth semi-structured interviews, observations and focus group interviews. Table 2 shows how the research questions, the appropriate data collection methods and the key ideas in the conceptual framework (presented in the previous chapter) are mapped.

Research Question 1: How do lecturers use student-generated digital video to support students' engagement in their own learning?		
Research instruments	**Items**	**Conceptual framework**
Interviews	Using SGDV to provide feedback to students	Critical listener, viewer & provider of feedback (social constructivist; DiAL-e approach)
	Promoting active learning	Scaffolds-stimulus/modelling or presenting exemplar digital videos (DiAL-e approach)
	Changing student performance	Borrows ZPD ideas (social constructivist)
	Influence of SGDV on teaching practice	Enabling conceptualization of SGDV process; Use elements of TPACK in their planning & instruction
	SGDV allows students to learn differently	Gives control to the learner (social constructivist)
	Interaction with students	Mediates class discussions (social constructivist; DiAL-e approach)
	Strategy to support student engagement	Harnesses TPACK's 3 knowledge bases: Technology, Pedagogy & Content; Motivates/Prompts; Confirms new concepts through presentation & peer assessment (social constructivist; active learning)
	Student reflection	Scaffolding student reflection (social constructivist)
Observation	Classroom environment	Active learning in Communities of Practice
	Lesson structure (learning outcomes, student participation/input)	
	Grouping	Team-work and collaboration (social constructivist; situated learning)
	Communication/interaction	Student-student and student lecturer interaction (social constructivist; situated learning)
	Pedagogy	Feedback/facilitate ; (social constructivist; situated
	Assignment	learning; DiAL-e approach; active learning)
Research Question 2: How do students engage in their learning when incorporating student-generated digital video in the classroom?		
Research instruments	**Items**	**Conceptual framework**
Interviews/Focus groups	Learning through creating videos	Research, dialogue/brainstorm, discussion/critical analysis, negotiation and decision making (social constructivist)
	Participation in the activities	Facing challenges-problem-solving/ presentation/ viewing & sharing perspectives through collective activities (social constructivist)
	Teamwork/collaboration	Assign roles/ responsibilities (social constructivist)
	Student-lecturer interaction	Dialogue/Brainstorm (social constructivist)
	Promotes student reflection	Reflection
	Peer learning/assessment	Peer assessment (social constructivist; active learning)
Observation	Classroom environment	Active learning in Communities of Practice
	Lesson structure (learning outcomes, student participation/input)	
	Grouping	Collaboration (social constructivist)
	Communication/interaction	Social constructivist
	Pedagogy	Social constructivist/Active learning
	Assignment	
Research Question 3: What are students' self-reported beliefs about student-generated digital videos as a tool for engagement in learning activities?		
Research instruments	**Items**	**Conceptual framework**
Questionnaire	Discussion and negotiation	Active learning in Communities of Practice; Social constructivist
	Collaboration	Active learning in Communities of Practice; Social constructivist
	Peer evaluation/feedback	Social constructivist
	Self-assessment	Social constructivist
	Group knowledge building	Active learning in Communities of Practice; Social constructivist
	Contribute to the knowledge of other group members	Active learning in Communities of Practice; Social constructivist

Table 2: Mapping ideas in the conceptual framework with the research questions and items in the research instruments

5.2.4.1 Questionnaire

Interviews and questionnaires are two ways in which a researcher can gather information about peoples' beliefs or behaviours. Questionnaires are particularly useful for gathering small amounts of information or learning about general patterns from a wider selection of individuals, in the hope

of making a general claim (Driscoll, 2011). Questionnaires are a very important tool in the collection of both qualitative and quantitative data. Gay, Mills and Airasian (2006) suggested that a questionnaire has definite advantages over other methods of data collection, as they require less time, are less expensive and permit collection from a much larger sample, although the issue that arises is the lack of opportunity for the researcher to obtain rich information. Other limitations of self-report questionnaires include the possibility of low response rates and the researcher's inability to probe for responses.

Commonly, qualitative methods, such as interviews and observations, are used for uncovering beliefs and values (Curry, Nembhard & Bradley, 2009). The expected outcomes of the questionnaire used in this thesis were to gain an understanding of students' self-reported beliefs about SGDV as a tool for engagement. However, some researchers have raised concerns over whether this method of measuring beliefs is accurate, because answers can change, depending on how the statements are phrased. Moreover, participants may be unable or unwilling to report their actual beliefs (Berger & Kaiser, 2007; Lester, 2007). This is especially the case if their beliefs are inconsistent with how they use the videos. Neutral wording was therefore used in the questionnaire, which increased the likelihood of the respondents willingly and truthfully answering the questions.

5.2.4.1.1 Questionnaire Creation: Length and Types of Questions

While designing the questionnaire, care was taken to keep it short and focused. This is because participants are less likely to complete a long-winded questionnaire (Driscoll, 2011). Therefore, the questionnaire was designed so that it could be filled out within a short period of time. The questionnaires developed for this thesis (see Appendix C) contain a limited number of questions and can be completed within around 10 minutes. They were developed following a review of the relevant literature (Manfra & Hammond, 2006; Harris, 2008; Dunleavy & Milton, 2009; Schmidt et al., 2009; Lofthouse & Birmingham, 2010; Junco, Heiberger & Loken, 2011) and focus on questions related to student engagement. This questionnaire was delivered in person and administered to 48 students from three classes. The original intention was to distribute questionnaires to all the

students in the three classes, but only those students who were willing to take part were approached.

5.2.4.2 In-depth Semi-Structured Interviews

Self-reports, such as questionnaires, are a very common method of measuring teachers' knowledge (Abbitt, 2011; Koehler, Shin & Mishra, 2011). The rationale for using questionnaires is that they are easy to administer and questionnaire data can be easily analysed using statistical software. However, self-reports can exhibit poor construct validity (Creswell, 2013). In other words, the scales or items in a questionnaire may not measure what they are supposed to measure. Therefore, semi-structured interviews were included in the present study to evaluate teachers' TPACK. The literature also provides justification for the use of interviews to assess teachers' TPACK (Niess, Lee, Sadri & Suharwoto, 2006; Harris, Grandgenett & Hofer, 2010).

Semi-structured interviews were used to collect data related to (a) the teachers' use of SGDV to support students' engagement in their own learning, and (b) the way in which the students engaged in their learning when incorporating SGDV. The interview schedule consisted of a series of open-ended questions. The respondents' answers to these were expected to provide rich, in-depth information. The rationale for using interviews was thus to obtain detailed information from a few specific people, who were considered to have experienced ways in which digital videos could be used in a classroom setting, together with their reflections on that experience. Interviews were specifically selected as instruments for gathering data, because they were considered to provide opportunities to generate rich data. Moreover, the language of the interviews (Arabic) was deemed to be essential for gaining insights into the respondents' perceptions and values.

The interviews were conducted in a traditional, face-to-face format. The researcher also had the option of interviewing the participants over the Internet, with the awareness that the Internet provides a host of new possibilities for conducting interviews at a distance. Other options include interviews via email, chat or instant messaging, where the questions are administered using laptops or mobile phones, with the participants responding via the same means (Bowden & Galindo-

Gonzalez, 2015). However, in the current study, the researcher carried out face-to-face interviews, where the participants were able to share more information in a face-to-face interview than they might have in an online environment (Synnot, Hill, Summers & Taylor, 2014). The rationale for using in-depth face-to-face interviews was to gather the participants' opinions on how digital video supports engagement in learning.

One of the challenges to conducting interviews is finding a suitable location (Driscoll, 2011). However, the present researcher was able to interview the participants in a mutually selected location (a library), which was quiet and in which the participants were comfortable. Prior to each interview session, the respondents were provided with sample questions from the interview schedule and so they were well prepared and a larger amount of rich information was subsequently elicited during the interviews. It allowed the participants some time to think about and reflect upon their experiences. The researcher assumed that the provision of sample questions would ensure thoughtful responses from the participants. This approach, also referred to as 'priming' allowed the researcher to promote disclosure and improve the interview outcomes (Dawson, Hartwig & Brimbal, 2015). However, the researcher was also aware of the potential limitations of this process; for instance, there was the risk that the discussion would be inflexible, with no spontaneous, impromptu answers being elicited. In order to address this issue, more prompts were included; for example, the students were asked additional questions, such as 'How would you explain being creative?' and 'Can you recall some of the challenges you faced during the project?' while a response was probed from a lecturer, with 'How can you explain what is meant by real-world situation?'

The rationale for using probes (accompanying queries) was to gain a thorough understanding of the responses and obtain in-depth information. The researcher also relied on cue questions to guide the participants' thinking and to help them elaborate on any experiences that they saw as important. However, care was taken to avoid leading questions that would introduce bias into the study. For example, when a student was asked 'How satisfied are you with the guidance and support

that you have received from lecturers?' the student replied: "the lecturer has given us valuable guidance, support and encouragement." In order to elicit a more precise response, a less intrusive prompt was subsequently added: 'Can you provide an example?' which the student clarified:

> *When I showed her a number of shots and scenes, I received very useful feedback, rather than simple remarks, and also valuable suggestions. We actually followed the instructions which had a great impact on the video. The lecturer quickly responded to my messages via WhatsApp. (S1G2)*

During the interview, the researcher's participation may vary according to the participants' comfort level. The interview questions (see Appendices D and E) guided the questions, so that the researcher could focus on listening and reading the interviewees' body language during the interview. Gestures such as using one's hands, eye contact and shoulder movements are easy to read. Although these gestures vary from culture to culture, the researcher, being a Kuwaiti national, understood the participants' body language in this case. Notes were consequently made in a field diary about these gestures and other sources of non-verbal data, both during and immediately after the interviews. These notes were then integrated when transcribing the audio-recording of the interviews. The participants were given the freedom to talk about their experiences in a way that they were comfortable with, because through their narrative, the questions (interview and research questions) developed for this thesis were addressed. Moreover, by reading the participants' body language, the researcher was able to determine whether they were preoccupied, impatient or disinterested and this was conveyed by signs such as a sincere smile, nodding the head, direct eye contact and other facial expressions indicating whether they were comfortable or visibly upset, as in the case of fidgeting, etc.

The researcher not only allowed the participants to talk informally about their experiences, but also contributed to the conversation and shared his own experiences (Brenner, 2006). In this way, the participants' trust was gained and they were consequently more comfortable with sharing details about specific issues relating to their experiences. When using interviews, the issue of trust between the researcher and the interviewee becomes very important (Meyer, 2001). The

researcher further addressed this issue prior to the interviews by calling the participants on the telephone and sending out a letter explaining the key features of the project and highlighting the broad issues that would be addressed. The letter also made it clear that support from the institution's top management had been obtained. This is because support from the management of the teacher-training college concerned could have been an important prerequisite for the respondents' input. In this regard, however, although the management was involved in allowing the students to take part in the interviews, they were advised not to pressurise the participants or influence their responses.

The interview sessions were recorded using an audio-device and in this study, the researcher used a smartphone with adequate memory. By recording the interviews, the researcher was able to directly quote the individual and re-read the interview while transcribing it (Driscoll, 2011). The rationale for audio-recording the interviews consisted of helping to maintain the level of accuracy and richness in the data. In addition, by using audio-recording, the researcher was able to refer back to the interview data and verify the notes made. This ensured the validity of the data.

Interviews were carried out with three lecturers (one from each of the three classes) and 15 students (five from each of the three classes) working at the teacher-training college. Initially, four teachers were identified, but one withdrew from the study. A sample of 15 students was selected based on their knowledge of the research problem, which meant that appropriate individuals were included in the sample. The ideal sample size recommended for qualitative research ranges from 5-25 for phenomenology (Creswell, 2013). Mason (2010) examined qualitative sample sizes in a PhD study and found that the most typical sample sizes range between 10 and 40. These suggestions provided valuable guidance for the current study. Most importantly, the purpose was to select information-rich cases. The researcher considered the lecturers to be key informants and wanted to understand their perceptions of the factors influencing student engagement and students' motivation for learning when using SGDVs.

As mentioned above, the interviews were conducted with a sample of 15 students, who were purposefully selected from the classrooms of the three lecturers. However, this did not lead to any under-representation or over-representation of the students in the sample, since each class consisted of just 24 students. Moreover, the interpretation of the results was limited to the population under study. Aside from this, the interview questions were formulated after a comprehensive review of the relevant literature on, for example, digital videos to promote student reflection and influence teaching practice (Halter & Levin, 2014); dimensions of student engagement (Harris, 2008; Dunleavy & Milton, 2009; Willms, Friesen & Milton, 2009); reflection to improve teaching and learning (Dobrovolny & Lowenthal, 2011), and aspects of video production for teaching and learning (O'Donoghue, 2014). The questions were simple and formulated to elicit information that would eventually help to answer the research questions. Additionally, probes were developed to encourage more detailed and elaborate responses to the questions.

5.2.4.3 Classroom Observations

Classroom observation was also used to give insights into the use of SGDV, not only as a means of enhancing student engagement, but also to gain a deeper understanding of the case. The rationale for using a single case study observed in the classroom was to emphasise the perspectives of the participants (students and lecturers) as central to the research process (Zucker, 2009).

Observations can be conducted on almost any subject matter and the kind of observation implemented by a researcher will depend on the research questions (Driscoll, 2011). Therefore, in this case, the observations needed to correspond to the ways in which teachers use digital video to support students' engagement in their own learning and the ways in which students engage in learning activities when incorporating SGDV. The researcher was consequently obliged to choose between two different approaches when observing the sample: participant observation and unobtrusive observation. Participant observation is used by researchers to interact with participants, whereby they become part of the community being observed; while unobtrusive observation does not involve any interaction between the researcher and the participants. Instead,

unobtrusive observation means simply recording the participants' behaviour (Meyer, 2001). Regardless of the type of observation used, it produces rigour when combined with other methods, as it can illuminate the discrepancies between what is said in interviews and casual conversations and what actually takes place (Meyer, 2001). In classroom observations, the researcher normally obtains data by watching the participants. In other words, direct or unobtrusive observation is carried out. Gay, Mills and Airasian (2006) suggest that the emphasis during such observations is to understand the participants in their natural environment, without altering or manipulating it. In the present study, observations were conducted in the classroom, which was a very familiar scenario for the lecturers and students.

The researcher hopes that by observing the participants while they execute a digital video project/activity, a better understanding of their learning experiences can be gained and this will in turn complement what was described in the interviews. As an observer, the researcher was present at the scene of the action and occasionally participated (with the participants' permission) by asking questions to clarify what was taking place. This meant that he fully understood the tasks being performed. Observing students and lecturers in a classroom activity is aimed at better understanding student engagement in learning activities, which involve an expansive process of involvement in a community of practice. The classroom observations were used to capture relevant data from three different classroom sessions facilitated by three lecturers, who had previously been interviewed. The observation schedule (see Appendix G) was developed by adapting an instrument that had already been used and tested by Schuck and Kearney (2004). During the observations, the researcher's thoughts and ideas were recorded. Besides, the researcher observed what transpired in the classroom, while the digital video project was underway, in order to understand the interactions taking place and to make notes in the schedule. The researcher recorded all relevant aspects of the situation, observed as accurately as possible (Gay, Mills & Airasian, 2006); for example, the time of day, number of students in the class, the activity being performed (camera use, position, audio-recording, etc.), grouping, and the quality of the social aspects of the environment, such as the classroom climate. A video camera was also used during the observations.

The use of the camera opened up exciting new insights into how teachers interact with students when engaging them in the creation of videos, and how teachers generate productive opportunities for student engagement in quality learning. The use of the camera allowed the researcher to capture these processes in great detail and also provided rich documentation of classroom cultures and practices. However, the video data were subjective and it is claimed that such data need to be carefully interpreted (Hackling, 2014).

The notes included descriptive information of what had transpired in the classroom, as well as the researcher's experiences and thoughts during the observed session (Gay, Mills & Airasian, 2006). Additionally, the notes from the video (the camera observation) were anecdotal in form, but related developments to the observational notes. Overall, the notes provided reflective information or the researcher's personal reactions to the observations, while the observations reinforced the concepts, responses and ideas shared by the participants during the interviews. Although reflection and reflexivity are important in the interpretation of observational data, and bearing in mind that the researcher represented the data collection tool and analysed the data in this study, there was a need to maintain a constant balance between the researcher's role (which involves bias) and involvement in the classroom observation, which offers multiple perspectives.

5.2.4.4 The Focus Group

Focus groups are a highly efficient technique for collecting a wide range of data from several subjects at the same time (Robson, 2002). They are concerned with accounts that emerge through interaction. A focus group in in fact described as "a group of people gathered together to discuss a focused issue of concerns" (Liamputtong, 2011, p.31). The group's interaction can serve as a catalyst for the generation of unique insights into participants' opinions and experiences (Hennink, 2007). In this thesis, the focus group was considered to be an appropriate tool of data collection, with the goal of understanding the differences in perspective between groups of students with regard to SGDVs, while at the same time revealing the factors influencing their opinions or behaviour. Focus groups can stimulate discussion amongst participants about a research topic. They

are also inexpensive and flexible, allowing rich information to be collected within a short period of time. They are especially useful for exploring issues that concern a group of people, as individuals are more likely to feel comfortable about talking to others who share similar experiences (Liamputtong, 2011).

As the moderator, the researcher in this study guided the dialogue while permitting free exchange and ensuring that the participants were comfortable about expressing opposing views. The researcher tried to encourage the participants to describe and compare their experiences and opinions with fellow group members, in order to reveal the degree of consensus or diversity over the relevant topics (Liamputtong, 2011). The questions for the students' focus group interviews (see Appendix F) were also developed following a comprehensive review of the relevant literature. Finally, the focus groups were conducted in person by interviewing 17 students belonging to three groups (six from two of the classes and five from one class). These did not include anyone in the sample, who had been previously interviewed in-depth. Stewart, Shamdasani and Rook (2007) recommend two to five groups in a study; while other researchers have found that a group can consist of 4-12 participants (Carlsen & Glenton, 2011). Care was taken to ensure that the students taking part in the in-depth interviews were not included in the focus groups, so that the participants were representative of the larger population and multiple and diverse perspectives were collected.

5.3 The Pilot Test

Pilot studies are miniature versions of full-scale studies and they involve pre-testing a particular research instrument, such as a questionnaire or interview schedule. They are considered to be a crucial element of a good study design (van Teijlingen & Hundley, 2001). While conducting a pilot study does not guarantee success in the main study, it does increase the likelihood.

Yin (2014) highlights the need for a pilot case study, stating that it helps researchers to refine their "data collection plans with respect to both the content of the data and the procedures to be followed" (p.79). Conversely, other advocates of the case study (such as Stake, 1995; Merriam,

2009) do not attach any importance to a pilot case study. Instead, they largely concentrate on the piloting of each data collection instrument, which is what the present researcher chose to do in this instance. The rationale for conducting this pilot test was to remove any obvious barriers and problems that could be encountered during the later stages of data collection and analysis. By conducting such a test, problematic areas could be exposed and corrected. Pilot tests were also carried out to determine whether the planned timeline was feasible and whether or not the interview questions and questionnaire items were appropriate and effective. Based on the results of the pilot, the researcher made the necessary adjustments.

5.3.1 Creation of the Questionnaire: Testing the Items

Therefore, to ensure that the length of the questionnaire was appropriate and that the questions were clear, the items were pilot-tested. Prior to administering the questionnaire on a larger scale, participants identical to those in the main study were asked to fill out and provide feedback on the items, phrases and terminology included. This was to verify that the length of the questionnaire was appropriate and could be completed within the expected time. The participants were asked if the questions were unambiguous and made sense. Their responses were then reviewed to see whether the answers matched what the researcher intended to investigate. Based on the pilot test, the questions and the length of the questionnaire were then revised.

5.3.2 Interview Schedule: Testing the Questions

The pilot test assisted the researcher in determining any flaws, limitations or other weaknesses within the interview design, so that necessary revisions could be made prior to carrying out the study (Turner, 2010). A pilot test was conducted with a number of students and lecturers with similar interests to those participating in the main study. It also helped the researcher refine the research questions.

5.4 Ethical Considerations

Prior to the commencement of this research, ethical approval for the thesis was obtained from the Ethics Committee of the University of Southampton, through the Ethics and Research Governance Online (ERGO) System (see Appendix A). This was followed by informed consent being obtained from all the research participants. Research involving human subjects can pose ethical issues and therefore, voluntary informed consent (see Appendix B) is a prerequisite for participation (Nijhawan, Janodia, Muddukrishna, Bhat, Bairy, Udupa & Musmade, 2013). Obtaining this consent involves informing the participants that they are participating on a purely voluntary basis and verifying that they understand the purpose and procedures of the study. It must also be confirmed that they are aware of their right to a copy of the results of the study and that they understand its potential benefits. Finally, it is essential for them to be informed that their right to privacy will be respected (Gupta & Kharawala, 2012). To some extent, all these concerns can be minimised by giving the participants information sheets (see Appendix B) and debriefing them, so that they can understand the nature of the research and its outcomes, prior to their participation in the research.

The participants were selected purposively for the interviews and the questionnaires (as discussed earlier). For instance, the lecturers were selected after obtaining prior permission from their head of department (see Appendix P). The students were chosen by obtaining prior permission from the respective classroom lecturers and department head. These participants were all involved in teaching or studying on the Instructional Television module and an information sheet highlighting the significance of the research was distributed to them before asking them to take part in it.

The above-mentioned information sheet (one each for the questionnaire and interviews) explained how the research was relevant to the participants (see Appendix B). The rationale for distributing information sheets has been elucidated by Creswell (2012), who states that in qualitative research, researchers must accurately communicate the purpose of their studies, avoid deceptive practices, respect the study population, respond to potential power concerns, and observe confidentiality.

Informed consent forms were handed out for the interviews during the process of negotiating access to the participants. The researcher explained that each participant had the right to withdraw from the study. As the participants needed to be observed, several additional considerations were necessary, including the manner in which they would be observed. In the context of participant observation, informed consent remains one of the most important ethical principles, but in this case, the researcher was in a dilemma as to how formal informed consent could be obtained from all students in a classroom. Initially, a decision was made to obtain 'collective' consent from a student or class leader. However, the researcher bore in mind that the students could be unaware of his identity and the purpose of the research. Therefore a general announcement was made about the researcher's purpose, research topic and the method used to gather data. Despite this, it soon became evident that such announcements could exert pressure to participate. Therefore, informed consent was obtained from all students present in the classroom during the observation, with participation information sheets being distributed to all.

The participants were made aware that if they chose not to participate, they would not be penalised and that it would not affect their relationship with the researcher or the educational institution they represented. A study should not cause any distress, discomfort, inconvenience or other adverse effects on participants. No potential risks (physiological, psychological, social, legal or financial) were associated with this study, but the present researcher believes that the biggest challenge consisted of maintaining participant confidentiality in written reports and in the data collection stages. The participants were reassured that their names and other identifying information would be kept confidential. Additionally, in the case of the focus groups, the researcher anticipated problems occurring as a result of the participants' personalities and worries over confidentiality and generalisability (applying research results to settings or cases other than those examined in this study). However, the researcher believed that these issues could be handled during group interactions. The participants were assured that the data they provided could not be traced back to them in research reports, presentations or other forms of dissemination. Most importantly, they were assured that the name of their institution would not be mentioned. Finally,

in order to preserve their anonymity and confidentiality, pseudonyms were used. The use of pseudonyms (codes consisting of numbers or letters) in place of real names can protect participants' identity.

Audio-recordings of interviews, transcripts, questionnaires responses, and observation videos/notes were stored electronically using cloud computing. The stored data were password-protected, so that they were under the researcher's control. The process of storing information and using passwords to protect it complies with the principles of the Data Protection Act, 1998 and the European Economic Area (EEA). Although data can be retained for as long as they are of value to the researcher, in the present case, they will be retained for three years after publication of the work. The researcher intends to publish an abridged version of the thesis in journals (e.g. *The Journal of Educational Psychology*, *The Educational Psychologist*, *The Journal of Mixed Methods Research, Computer-Supported Collaborative Learning, Computers & Education, Studies in Higher Education*) and conference proceedings. Finally, as a matter of good practice, the participants were provided with information about the research findings. This allows them the opportunity of judging the ethical quality of the study for themselves (Terrell, 2012).

5.4.1 Primary Concerns

The dimensions of research ethics are complex. Some of the potential difficulties facing the researcher were participants' lack of familiarity with the research processes and their reluctance to give informed consent. This could result from their lack of knowledge of universal ethical research principles and a failure to realise the openness of diligence in UK-based research. Therefore, the researcher was obliged to continuously monitor the research situation, using reflexive practices to deal with uncertainty (for example, diaries to document ideas, feelings and observations, and developing conversation with participants) and minimise the research risks (for example, by protecting the study participants through consideration of ethical principles). Aside from this, culturally informed strategies were adopted (for example, incorporating cultural sensitivity, using Arabic as the language of mediation, promoting active dialogue with the participants, and

demonstrating patience). Care was then taken to identify and nullify power imbalances between the researcher and participant. In order to avoid such situations, the present researcher spent time with the lecturers and students, developing a dialogic relationship with them from the outset, which built a rapport and trust.

Another ethical issue raised by this research related to the classroom observation. The participant observation in this case involved observing and recording participants' interactive patterns and daily behaviour, while creating videos. In such situations, an invasion of privacy is inevitable. However, this issue was addressed through informed consent.

5.4.2 The Role of the Researcher

The role of the researcher in a pragmatic case study is to generate knowledge from the research process and by focusing on the research questions. The researcher plays a key role in telling the story from the participants' point of view. This involves building relationships and dialogue. However, the interaction between researchers and participants can be ethically challenging and it is therefore important that the researcher is aware of the research process and ethical issues (Sanjari, Bahramnezhad, Fomani, Shoghi & Cheraghi, 2014).

In this study, the researcher's role appeared to be that of an outsider. Nevertheless, the researcher comes from Kuwait, speaks the same language as the participants, and had met them on many occasions before the research and during the interview and observation session. Therefore, the participants were likely to have identified the researcher as an insider, which could have influenced both the interviews and the observation sessions. This 'insider' status would have indirectly helped with the data collection in a way that would not be possible for outsiders. The way in which the researcher participated, presented and interacted with the participants could also have influenced the data collection, as he was not neutral or invisible to the respondents (Calafell, 2013). Here, the researcher/interviewer may equally have been seen as an insider during the interviewees. In order to negotiate a shared understanding, while avoiding insider assumptions, the researcher did not

consider the interviewees to be research objects, but rather co-producers of information, and reflected on this identity.

In the current study, the researcher was the primary instrument of data collection and analysis. Therefore, reflexivity is deemed to be essential for understanding the phenomenon under study (Watt, 2007; Holloway & Wheeler 2009). For the purpose of this study, reflexivity is referred to as a practice that helped facilitate the dialogue between the participants and the researcher, while at the same time constructing meaning throughout the research process (Calafell, 2013). In order to become fully engaged in the process, a diary was maintained to reflect on the researcher's role, assumptions and impact on the data. Throughout the observations, interviews and focus group discussions, reflective notes and memos were maintained. These notes were useful for connecting the researcher's experiences with those of the participants.

5.4.3 Real-world Dilemmas

This study could well be the first in Kuwait or any GCC or Arab country to investigate the use of SGDV in higher education. The focus of the investigation was on the use of technology to make films or videos for television. Integrating digital videos in other subject areas may present a different set of issues, because the discipline area may be dissimilar. This research used interviews, questionnaires and observations to investigate lecturers, students and classrooms in one higher education institution in Kuwait. Faculty members and students from other institutions in Kuwait, other countries in the region, or in the UK may have had different perceptions.

The questions in the questionnaire and interviews/focus groups were formulated in English, but the interviews were conducted in Arabic with both the students and lecturers. Data were then translated back into to English and this required back-to-back translation. In order to cope with this issue, the services of independent translators were sought, which was time-consuming. However, the researcher considered this essential to decipher the actual meanings of the responses. These limitations were then kept in mind when interpreting the results and implications in this study.

The instruments were validated after repeatedly reviewing previous literature, in order to demonstrate content validity. Additionally, the instruments were also submitted to a panel of experts for review and then pilot-tested on selected students and lecturers, who did not form part of the main research sample. Other problems included the research participants' lack of awareness of their rights, poor understanding of the research and claims that the region is hampered by restrictions on political freedom, which could have influenced the context in which the research was conducted (Silverman, Edwards, Shamoo & Matar, 2013). Debriefings and participant information sheets were provided and the research process was explained to the participants in order to increase their awareness.

5.5 Potential Threats

There are two sets of criteria for appraising the rigour of qualitative case study research. The first of these is based on positivist approaches to case studies (Miles & Huberman, 1994; Yin, 2014), while the other is based on qualitative approaches (Merriam, 2009). The positivist approach includes validity and reliability as criteria; these being key aspects of quantitative research. This qualitative case study does not define quality in terms of validity and reliability, but rather in terms of the plausibility (credibility or trustworthiness) of the narrative and the overall argument (Onwuegbuzie & Johnson, 2006; Onwuegbuzie, Dickinson, Leech & Zoran, 2009; Ali & Yusof, 2011).

5.5.1 Validity and Reliability

As with any research,

> *…validity stems more from the appropriateness, thoroughness and effectiveness with which those methods are applied and the care given to thoughtful weighing of the evidence than from the application of a particular set of rules or adherence to an established tradition. (Bazely, 2004)*

There are two major forms of validity and these can be classified as 'internal' and 'external' validity (Denzin & Lincoln, 2011). When applied in qualitative research, internal validity refers to the extent

to which research findings are congruent with reality. In other words, internal validity refers to how reality is constructed and interpreted. External validity or transferability in qualitative research is not about trying to reach a general conclusion about the population, but rather about whether the results are rigorous, credible and trustworthy (Merriam & Tisdell, 2016). Thus, traditional criteria of internal and external validity are replaced by such terms as 'trustworthiness' and 'authenticity' (Leung, 2015). Reliability is concerned with the consistency, stability and repeatability of the informant's accounts, as well as the investigators' ability to collect and record information accurately.

5.5.2 Qualitative Internal Validity

Internal validity is an issue or threat arising in a qualitative case study, but the strategies to overcome it include triangulation and member-checking. Triangulation involves using multiple data sources in an investigation to produce understanding. In qualitative research, triangulation is generally used to ensure that an account is rich, robust, comprehensive and well-developed (Cohen & Crabtree, 2008). The rationale for methodological triangulation is that a single method can never adequately shed light on a phenomenon or research topic. Methodical triangulation enhances credibility with the use of multiple data sources to confirm the data and ensure its completeness for collection and analysis (Houghton, Casey, Shaw & Murphy, 2013). Using multiple methods can help facilitate a deeper understanding. Therefore, in this study, different data sources were triangulated; that is, the consistency of different data sources was examined from within the same method. The goal was thereby not to seek a consensus, but to understand multiple ways of looking at data (Cohen & Crabtree, 2008).

Member checking is another strategy for ensuring internal validity. It is defined as, "taking data and tentative interpretations back to the people from whom they were derived and asking them if the results are plausible" (Merriam, 2009, p.204). Member checking is seen as an aspect of triangulation that reduces the risk of results being misinterpreted. It helps increase the validity and accuracy of the researchers' observations and findings (Creswell, 2013a). In the current study, interpretations

of interview transcripts were made through member checking (student interviews) and peer-debriefing (the lecturers' interviews). The validity of the researcher's interpretation was tested by considering the perceptions or viewpoints of the students and lecturers.

Lecturers and students were asked to check key themes and findings, to see if they were consistent and if they could confirm them. The purpose of engaging these participants immediately following the interviews and thematic analysis was to ensure that the researcher's interpretations accurately reflected the respondents' perspectives and experiences. For instance, in order to prevent inappropriate interpretations, the lecturers and students were asked to especially review any words or phrases that had been paraphrased. In the case of the observations, member checking or peer-debriefing (the lecturers) enabled an exploration of the extent to which the lecturers agreed with the researcher's conclusions, interpretations (inferences), or field notes and accounts of the observed phenomena. This meant that events could be seen from multiple angles and on different levels, rather than just from a single (the researcher's) viewpoint.

5.5.3 Qualitative External Validity

Merriam (2009) describes external validity as the extent to which the results of one study can be applied to other situations or populations. Qualitative external validity is also acknowledged as generalisability and/or transferability (Merriam, 2009). To address concerns over qualitative external validity, this study utilised thick description. Providing a rich and thick description of a case and its participants allows the reader to understand it clearly and compare any accounts emerging with those that could have emerged in their own situations (Merriam, 2009; Creswell, 2013a). In the current study, the researcher used reflective diaries and documented decisions, sought the help of participants to comment on the research findings and themes, and used rich and thick verbatim extracts, which allow readers to make judgements about whether the final themes are true to the participants' accounts.

5.5.4 Qualitative Reliability (Dependability)

Creswell (2013a) discusses qualitative reliability as the researcher's approach to a study and the importance of consistency across different researchers and projects. Meanwhile, Merriam (2009) and Yin (2014) identify reliability as the issue of whether or not a study would yield the same results if repeated. Merriam outlines three traditions associated with the ways in which reliability concerns are addressed: the investigator's position, triangulation, and the audit trail. In the current study, the researcher assumes that the researcher's role and triangulation across both these data sources and the researcher (analytical triangulation) are very helpful for enhancing the trustworthiness of the results.

5.5.5 Criteria Applied for Appraising the Rigour of Qualitative Case Study Research

The criteria applied to the current study include linking the research questions, data, analyses and conclusions, triangulating the data, member checking, and the reflexivity of the researcher. The participants reviewed the transcribed data (the interviews and focus groups) and although they did not dispute the way in which the data were transcribed, minor changes were made to the transcripts before starting the analysis; for example, indicating the numerous and often inconsistent descriptions made by the respondents themselves. Some of the phrases were also modified to clarify content, rendering the text more articulate or refined. An example of this is the phrase "I was the enabler" being amended to "I took on the role of an enabler". The objective was to empower the participants by giving them a sense of propriety over the product and control over the transcripts. The researcher paid more attention to these aspects, so that the research findings would be credible and trustworthy.

Data collection and analysis in case study research are subject to the influence of the researcher and rely heavily on how he or she interprets the data. In other words, the very presence of the researcher, combined with the researcher's personal or professional beliefs, may lead to researcher bias and limit the validity of the research (Lambert, Jomeen & McSherry, 2010). Therefore,

researcher bias should not be permitted to significantly influence the trustworthiness of data. For example, some attempt was made to minimise bias in this study by ensuring that the participants were fully informed of the study's purpose and how it would be conducted. Bias was further counteracted in this case by using multiple sources of evidence, such as questionnaires, interviews, observations and focus groups, thus triangulating the data. Besides, rigour was established by adequately defining the case, choosing a sufficient number of data sources, showing empathy to the participants and examining personal intentions (Stake, 1995; Merriam, 2009; Creswell, 2013).

5.5.6 Eliminating Bias

In qualitative studies, it is impossible to eliminate bias entirely, remain emotionally detached, and avoid becoming involved with the participants in some way. As a result, case studies have been regarded as having inferior value, being impossible to generalise from, and being biased by researchers (Merriam, 2009; Stewart, 2014). However, one way of minimising bias is to obtain permission from the participants to audio-record interviews, so that these can be relied on as evidence, rather than depending solely on memory (Driscoll, 2011).

Ethical concerns over remaining unbiased are important to consider when making observational notes. The researcher was aware of the difference between an observation (recording multiple viewpoints exactly) and an interpretation (making assumptions and judgments about what is observed) (Driscoll, 2011). He therefore focused exclusively on the events that were directly observable. To avoid bias in the observations themselves, the researcher kept a log book and also made field notes, which to some extent permitted observation (the facts), as opposed to feelings and judgments about 'the facts'. In the case of the interviews, the researcher ensured that partiality was maintained when transcribing the data and when writing up the research (Terrell, 2012).

5.6 Data Analysis

5.6.1 Quantitative Data Analysis

The main aim of the quantitative data analysis was to address the research question within a well-developed contextual description of the students' experiences of using SGDV in higher education pedagogy, where it served as a tool to enhance students' engagement in learning activities.

The students' questionnaire was developed to provide answers related to their skill in producing videos; their knowledge, skills and practice during the classroom SGDV project, and the perceived benefits of participating in the project. The students' responses to this genre of question were expected to shed light on how SGDV could stimulate learning and engagement.

The students' questionnaire included 15 items to determine their skill level for creating videos (six items); the students' knowledge, skills and practices throughout the project (four items), and the perceived benefits of participating in the SGDV project (five items). All these items were scored on a five-point Likert scale, ranging from 'Strongly agree' (=5) to 'Strongly disagree' (=1).

The participants were identified by assigning them with code numbers and this helped track their responses. The risk of non-response bias was low, as most of the respondents included in the sample responded promptly. The closed-ended items of the questionnaire were entered into Microsoft Excel, while the Analysis ToolPak was used to analyse the descriptive data. The analysis was then performed to deduce the frequency of the data. As the current study is qualitative in nature, the goal was not to produce statistical information, but rather to complement the qualitative data obtained through interviews, observations and focus groups (Happ, DeVito, Dabbs, Tate, Hricik & Erlen, 2006). Therefore, the researcher empirically examined the diversity of the responses, even if these responses were expressed in numbers.

The analysis of the frequency of the responses revealed the respondents' perspectives, which were focused on a specific concept or theme. This helped construct a descriptive profile for the study population (Bazeley, 2009). Thus, the quantitative data were analysed in one form and manipulated

into another, with the numerical data being transformed into narrative representations to be analysed qualitatively (Onwuegbuzie & Dickinson, 2004; Elliott, 2005). This is referred to as qualitising, which involves the conversion of quantitative data into concepts or themes (Teddlie & Tashakkori, 2009). In other words, it refers to translating the numbers derived from quantitative findings into the narrative language of qualitative research. In order to create these narrative descriptions, the numerical data were coded manually and the initial themes that emerged then formed the basis for further examination (Collins et al., 2010). This could then be easily combined with other qualitative data (for example, interviews, focus groups and observations) (Happ et al., 2006). It is in fact essential to complement the various data sets. When transforming numerical data into narrative representations, however, great care was taken to avoid over-generalising or distorting data in the translation process.

5.6.2 Qualitative Data Analysis

The main aim of the qualitative data analysis was to address the research question on how lecturers and students use SGDV in higher education pedagogy as a means of enhancing students' engagement in learning activities. Qualitative data collection generates a substantial amount of data, whereby the interviews, observations, open-ended questions in the questionnaire, and focus groups were analysed thematically. The transcripts were analysed in this way using NVivo 11, according to the process suggested by Braun and Clarke (2008). The six phases of thematic analysis followed in this study include:

1) Familiarisation with the data: Getting to know the data well by reading and re-reading the transcripts, observation schedules and field notes (on body language); listening to audio-recorded data, and watching videos of the classroom observations (Braun & Clarke, 2006)

2) Coding: Coding the data and then collating these codes and relevant data extracts (Braun & Clarke, 2006)

3) Searching for themes: Looking for coherent and meaningful patterns in the coded data, corresponding to the research question (Houghton et al., 2013). The themes were then constructed and all codes relevant to the themes were collated (Braun & Clarke, 2006)

4) Reviewing the themes: This involved checking the themes, the coded extracts and the full data-set to see if the themes told a convincing and compelling story about the data (Braun & Clarke, 2006)

5) Defining and naming the themes: Each theme was analysed and given a concise, punchy and informative name (Braun & Clarke, 2006)

6) Writing up: The themes were used to write the narrative and tell the reader a coherent and persuasive story about the data; contextualising this in relation to the existing literature (Braun & Clarke, 2006).

5.7 Summary of the Research Design and Methodology

In this thesis, a pragmatic paradigm was adopted and methods were selected based on the research questions being addressed. A qualitative case study was chosen, because the case being studied was the use of SGDV by teachers to support students' engagement in their own learning. The rationale for opting for a qualitative research design was that it provides an opportunity to search for a more in-depth understanding of the use of student-generated videos to enhance students' engagement in learning activities. This chapter has also explained how the students and lecturers were selected for participation in the study, in addition to how access was negotiated with them and with the higher education institution concerned. An overview of the types of data collected from the participants was then provided, namely questionnaires, in-depth semi-structured interviews, observations and focus group interviews. However, a pilot study was conducted beforehand to test the research instruments, identifying the obvious barriers and problems and then resolving them.

The present researcher has consequently highlighted some of the ethical dilemmas that could be faced when carrying out research. As a result, two main ethical issues were raised: the invasion of the participants' privacy while observing them, and deception. The potential threats to qualitative research, related to validity (internal and external), trustworthiness and bias, were also discussed. The data collected and analysed using the methods discussed in this chapter are presented in the next chapter.

Chapter 6: Results

6.1 Introduction

This chapter presents the results of the data analysis. It consists of two main parts: Phase I, focusing on the quantitative data analysis, and Phase II, consisting of the qualitative data analysis.

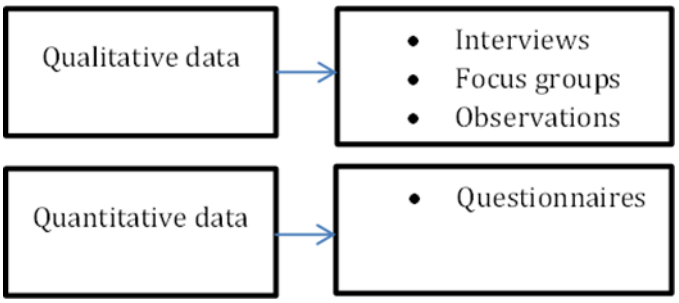

Figure 4: Datasets collected for analysis

Since a pragmatic approach was used, this study does not rely heavily on inductive and deductive reasoning. In other words, an abductive approach was used and the researcher used applied his own pre-understanding, the data, and various theoretical frameworks, order to arrive at the best possible explanation of the phenomenon under investigation (Mantere & Ketovki, 2013; Martela, 2015).

Furthermore, this chapter consists of several sections, which describe Phases I and II. They therefore involve an analysis of the quantitative and qualitative data analysis, but also outline the students' questionnaire and the analysis of the data gathered in the interviews with students and lecturers, focus groups and classroom observations. Finally, the chapter is summarised, bringing these main points together.

6.2 Phase I – The Quantitative Data Analysis Process

The research question guiding this phase of the research is:

> *'What are students' self-reported beliefs about student-generated digital video (SGDV), as a tool for engaging in learning activities?'*

6.2.1 The Students' Questionnaire

The descriptive data (see Table 3), which were analysed qualitatively, are presented here in a narrative style under thematic headings.

Skills in Producing Videos

The vast majority of the students (N=45) agreed (Strongly Agree, 21.1%; Agree, 66.7%) that they knew how to organise their activities. When asked if they knew how to discuss ideas with other students when generating the videos, the overwhelming majority (N=47) responded positively (Strongly Agree, 56.3%; Agree, 41.7%). The data also revealed that most of the students (over 93%) knew how to use the classroom discussions to expand their knowledge of generating digital videos. Discussions of this nature seemed to have fostered teamwork and collaboration. Most of the students (N=45) agreed (Strongly Agree, 54.2%; Agree, 39.6%) that they had acquired the skills to work collaboratively in a group to produce videos (over 95%). Besides, most of the students (over 90%) reported that they were able to use the technology in various ways.

Table 3: Descriptive data - the student questionnaire

Descriptive data analysis: Students							
(a) Skills for producing videos							
	Item	Students	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1	I know how to organize my activities	*n* = 48	13 *27.1%*	32 *66.7%*	3 *6.3%*	0 *0.0%*	0 *0.0%*
2	I know how to discuss with others about the DV project	*n* = 48	27 *56.3%*	20 *41.7%*	1 *2.1%*	0 *0.0%*	0 *0.0%*
3	I know how to take advantage of common discussions for deepening my understanding	*n* = 48	29 *60.4%*	16 *33.3%*	2 *4.2%*	0 *0.0%*	0 *0.0%*
4	I know how to work in a goal-oriented way in a group	*n* = 48	26 *54.2%*	19 *39.6%*	2 *4.2%*	0 *0.0%*	0 *0.0%*
5	I know how to produce videos collaboratively with others	*n* = 48	23 *47.9%*	23 *47.9%*	2 *4.2%*	0 *0.0%*	0 *0.0%*
6	I know how to use technology in multiple ways during collaborative work	*n* = 48	29 *60.4%*	16 *33.3%*	3 *6.3%*	0 *0.0%*	0 *0.0%*
(b) Knowledge, skills and practices during the DV project							
	Item *During the project I have learned….*	Students	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
7	To give feedback on the work of others	*n* = 48	13 *27.1%*	29 *60.4%*	6 *12.5%*	0 *0.0%*	0 *0.0%*
8	To evaluate the development of a shared product (digital video)	*n* = 48	18 *37.5%*	23 *47.9%*	5 *10.4%*	2 *4.2%*	0 *0.0%*
9	To work on digital videos that are later used by others or myself	*n* = 48	12 *25.0%*	27 *56.3%*	8 *16.7%*	0 *0.0%*	1 *2.1%*
10	I was able to pursue both my own interest as well as advance the work on shared products	*n* = 48	19 *39.6%*	20 *41.7%*	7 *14.6%*	2 *4.2%*	0 *0.0%*
(c) Benefits of taking part in the DV project							
	Item *Participation in the project ….*	Students	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
11	Helped me to learn the content of the module	*n* = 48	22 *45.8%*	24 *50.0%*	2 *4.2%*	0 *0.0%*	0 *0.0%*
12	Helped me to develop my abilities of learning more about the topic and the project	*n* = 48	25 *52.1%*	13 *27.1%*	7 *14.6%*	1 *2.1%*	2 *4.2%*
13	Was useful for group knowledge building	*n* = 48	22 *45.8%*	20 *41.7%*	6 *12.5%*	0 *0.0%*	0 *0.0%*
14	Allowed me to make a useful contribution to other's knowledge	*n* = 48	27 *56.3%*	19 *39.6%*	2 *4.2%*	0 *0.0%*	0 *0.0%*
15	Gave me the opportunity to assess myself	*n* = 48	28 *58.3%*	15 *31.3%*	2 *4.2%*	3 *6.3%*	0 *0.0%*

Knowledge, Skills and Practices during the SGDV Project

The use of digital videos gave the students the chance to assess the work of peers (over 85%), with 18 respondents 'Strongly Agreeing' and 23 'Agreeing' with the statement. In doing so, most of the students (N=42) also responded positively (Strongly Agree, 27.1%; Agree, 60.4%), stating that they had provided feedback. Although a large majority of the students (over 81%) agreed (Strongly agree, N=12; Agree, N=27) that they had the knowledge and skills to build on or develop further digital videos created by others, a small number of students (N=8) were not sure that this was the case. The results also indicate that the students were keen to promote the interests of others, with many (over 81%) agreeing on this point (Strongly Agree, N=19; Agree, N=20).

Benefits of Taking Part in the SGDV Project

According to the questionnaire respondents, there are many benefits to creating and using video in education. The vast majority of the students responding to items relating to this point (over 95%) agreed (Strongly Agree, N=22; Agree N=24) that they were able to learn content related to the Instructional Television module when they created and used digital videos. Likewise, most of the students (over 79%) agreed (Strongly Agree, N=25; Agree N=13) that they had developed their own ability to learn more about the topic and the project. Moreover, the students' responses indicate that the SGDVs had helped them to build knowledge collectively, with over 87% agreeing (Strongly Agree, N=22; Agree, N=20) with the statement that it 'was useful for group knowledge building'. In response to the item '[it] allowed me to make a useful contribution to others' knowledge', a large majority of the students (over 95%) agreed (Strongly Agree, N=27; Agree, N=19) that the use of digital videos enabled them to share their knowledge with others. Finally, many students (over 89%) agreed (Strongly Agree, N=28; Agree, N=15) that by taking part in the SGDV project, they were able to monitor and evaluate their progress. In other words, they were able to self-assess their learning abilities.

The responses to the three key categories reveal that the digital videos created by the students had increased their engagement and motivation, and enhanced their learning experience. The SGDV

project had equally helped develop teamwork, as well as the learners' autonomy. The opportunity to create videos independently seemed to have generated genuine enthusiasm for learning, whereby the students develop their potential for deeper learning on the Instructional Television module. Finally, the results of the numerical data revealed that the students were able to form communities, with the primary goal of engaging in group discussion. To sum up, the use of videos seemed to have produced authentic learning opportunities for the students.

6.3 Phase II – Qualitative Data Analysis Process

This phase of the study on the affordances and value of SGDV involved the collection of qualitative data from interviews, observations and focus groups. The students selected for the interviews were mentored by three lecturers and were drawn from the classes facilitated by these three lecturers. Digital video creation requires students to work in groups and so semi-structured interviews were carried out with each of the three groups of students and the three lecturers. The interviews were then followed by focus groups with students and classroom observations of the three lecturers. Next, the transcripts were thematically analysed (using NVivo 11), following the process suggested by Braun and Clarke (2006). This process is described in section 5.6 of the Research Methodology (Chapter Five). The key findings are presented here under each main theme or category. The codes from the thematic analysis were also defined and appropriate quotes provided as evidence.

6.3.1 Data Analysis: The Student Interviews

Group 1:

This group consisted of four students, sub-divided into two sub-groups of two students each, in order to produce digital videos related to the course. The names of the students were anonymised as S1G1, S2G1, etc., with a number being assigned to each student and to the group to which they belonged. The data were gathered to answer the following research question:

'How do students engage in their learning when incorporating student-generated digital (SGDV) video in the classroom?'

The students' responses related to their perceptions of SGDV and they almost unanimously responded positively in this regard.

Adaptability and Sustainability

Overall, it would seem that the students were able to adapt and improvise when involved in the digital video project. The complex and unpredictable contexts in which the videos were produced required an adaptable learning approach. The SGDV not only reinforced the value of engaging the students in this activity, but also appealed to them and enabled them to experience new things; for instance, it met their learning expectations. In short, it seemed to have enhanced the students' adaptability and sustainability. According to one student:

> *… [I] have the ability to intelligently manage and overcome challenges when participating in learning activities. (S1G1)*

Adaptability, in the context of this study, can be defined as an individual's ability to adjust his or her behaviour and beliefs to new circumstances or situations, subsequently producing and sharing knowledge for sustainability. In the present case, this involved using technology, building a rapport with fellow students and teachers, collaboration, and different learning approaches. Sustainability refers to a student's capacity to continuously adapt to his her environment through interaction and teamwork.

Promotes Creative Confidence

SGDV engaged learners in activities that required creativity and innovation. Creativity or inventiveness can be interpreted as both the ability and desire to use skills to be innovative and adapt to new situations. Creativity involves the use of different thinking skills, as well as decision-making. The students' responses suggest that they were able to find many answers to particular problems and to address the challenges they faced. For instance, one student:

> *...realised that it is not the length of the videos that is important, but the artistic and aesthetic value and the final output of this video that are more important. (S1G1)*

Another student reported a desire to be creative and not to cram content or ideas.

> *I did not have to memorise anything. For instance, it enabled me to be creative and to learn on my own. (S1G1)*

Moreover, yet another student mentioned:

> *Using new software specialised in the production of Toy Story and multiple skills in using advanced software. I think if it wasn't for this project I wouldn't have had the capacity for creative short-storytelling. (S3G1)*

The last two responses indicate that SGDV fostered active problem-solving, which resulted in cognitive engagement. In other words, the students were purposefully engaged in the tasks, while drawing upon their skills.

With further reference to creativity, one of the students remarked:

> *I was always asking myself thought-provoking questions, in order to develop a better understanding of the [content]. (S2G1)*

The two statements quoted above show that SGDV can develop students' creative skills and help explore the meaning of their product. This creative process also included bringing ideas to fruition by sharing thought processes:

> *When creating the [content] along with my team members, I was able to develop entirely new, effective means of sharing, creating, and communicating ideas. (S3G1)*

Although the idea behind this student's video was to explore issues and tell stories in an inventive way, the respondents seemed to attach greater importance to improvisation.

It is evident from these responses that SGDV encouraged and enabled the students to develop skills that were not normally highlighted in traditional settings. In other words, SGDV kindled the students' curiosity, developed their creative confidence through a hands-on project, with emphasis

on creativity, skills and competencies, allowing them to take control of their learning. The challenging and engaging tasks associated with creating digital videos not only increased their motivation, but also enhanced their self-confidence as regards their cognitive abilities. In this context, the lecturers appeared to play a key role in developing the learners' interest, cultivating their motivation and encouraging them to approach tasks with confidence.

Fostering Reflective and Critical Thinking Skills

The students reported that they were aware of their own thought processes while engaging in the video-production activities, as they applied their metacognitive skills to control what they were doing. This reflective process involved foresight, preparation, monitoring, feedback, control and reaction and it was a reflective practice that appears to have been a key factor in the creative development of their novel videos. One student referred to it as follows:

> *I think I have gained new skills; I could use them in my career, such as critically examining my work by comparing it with the work of my peers, engaging in debates… (S1G1)*

This respondent was not only able to critically examine the process of making the video with other students, but also to use past experience to perfect it:

> *During the course, I was able to recount or recollect the events and learn from my experience. (S1G1).*

It suggests that the students not only developed skills for reflection, but also used reflective practice to acquire new skills. These statements indicate that SGDV helped develop reflection and critical thinking skills, whereby the students were able to analyse and make judgements during the video-making process.

Autonomous Learning

The students showed determination and took active steps that were consistent with their thoughts when engaging in activities associated with SGDV. They demonstrated that they could self-regulate their learning and that they were independent learners. They also reported that in order to self-regulate their learning, they took control over it and monitored their own performance through self-assessment. Such evaluations are useful for identifying one's strengths and potential barriers. According to one student:

> *I evaluate my work or that of my team by relating it to the knowledge produced by the videos of other students. I particularly look for factors such as creativity and innovation. (S1G1)*

By self-regulating their work, the students had become more autonomous. This was evident from the following response:

> *For the first time, I designed advertisements and I think it was an inspiring experience, although commercials do not exceed 30 seconds. (S2G1)*

The lecturer is likely to have played an important role in ensuring that the students became responsible for their own learning. As responsible learners, they sought to produce quality work.

> *I do not like to produce work that is unacceptable, that fails to meet the requirements of other members of the group… therefore, I compared my work with that of my fellow students, so that it would satisfy the requirements of the project team. (S3G1)*

All these responses suggest that the students, as independent and self-determined learners, had preconceived goals that they wished to achieve, without compromising the quality of their work. Therefore, they compared and assessed their performance with that of their peers. To sum up, the project promoted self-determination and allowed the students to make independent choices. As a result, they were motivated to engage in meaningful learning.

Capitalising on Team Dynamics

Working relationships between two or more learners are crucial for the success of a classroom project and for sustaining team performance. The students' responses suggest that positive relationships, a sense of belonging, and a sense of relatedness are important for teamwork. One student, who realised the importance of such relationships, stated:

> *I was able to consolidate social or personal relationships significantly… (S1G1)*

and continued:

> *I felt very happy when I heard the opinions of my colleagues… it was positive and I gained new experiences. (S1G1)*

The students were able to develop the ability to view situations from the perspectives of their peers. Their willingness to draw upon the expertise of the entire team could be considered as a very productive and powerful attitude for developing relatedness and a sense of belonging. This need to 'belong' is a fundamental motivating force, as it helps students to find common ground and share their goals. This was evident from the following response:

> *I was able to build a rapport with my team members. The encouragement I got from the team gave me a great deal of satisfaction (S3G1)*

What was central to the group relationships was an understanding of group dynamics, which enabled the members to work collectively.

> *…we worked collectively on this project; members of this group have different skills and experiences. We tried to use all these different skills and experiences to make the best possible… contribution and make an effort to achieve what was required of the group as a whole. (S2G1)*

The goal involved every team member, understanding their strengths and weaknesses and utilising them to their full potential. In other words, the SGDV-related activities enabled the students to open up and share their problems.

Collaborative Teamwork

Students engaged with the SGDV and participated in the various activities. Engagement and participation in activities are the essential elements of communities of practice; they facilitate social interaction, peer-to-peer collaboration, and active learning. In the present case, the students were actively involved in their groups during the video-making process. In other words, they socially constructed the videos through teamwork, negotiation and conflict resolution strategies.

The students' responses concerning how they engaged in their learning when integrating SGDV suggest that there was increased collaborative activity, with all group members working in tandem to help each other achieve their learning goals. According to one student:

> *What I learnt in this project was how to work as a team, to collaborate and co-create a video. (S3G1)*

This response suggests that the student was able to acquire new skills through collaborative negotiation, which involved understanding the needs and interests of others within the group. In short, the students were able to work effectively with each other to create the videos; valuing requests and contributions from peers and negotiating to achieve the team's objectives.

Authentic Approaches

Lecturers have their own unique style of teaching and may use different teaching strategies. When asked about their perceptions of the lecturers' integration of SGDV, the students voted unanimously that the objective of this approach is to promote project-based learning approaches to resolve real-world issues. For example, one student mentioned that:

> *When students are using the latest equipment to make quality videos that represent the real world, they have to be creative. I would suggest that the teacher use project-based learning. (S1G1)*

Another student reiterated:

I would prefer project-based learning, because in digital video projects students are evaluated based on their practical knowledge. (S2G1)

Project-based learning allows learners to gain knowledge and skills through investigation and by engaging in a complex activity to explain difficult subject content. When students are using cameras and audio-equipment to generate videos, they are applying what they learn to real-life situations. This requires a learning environment that fosters student engagement. According to one student:

I would suggest any student-centred teaching approach which enables discovery learning. (S3G1)

The suggestion made by the students was that the lecturers should use authentic student-centred teaching approaches. Problem-based learning is an educational approach that falls within the larger framework of authentic learning.

Balancing Practical and Theoretical Learning

Through their responses, the students seemed to demand less theory and more practice. They considered the activities associated with SGDV as relevant to their lives and therefore affecting them personally. They declared that SGDV had provided them with an interesting experience. The practical knowledge that they gained from the project complemented the theoretical concepts of instructional video that had been taught to them earlier by the lecturer. Substantial practical knowledge can in fact be acquired in informal learning environments. Informal learning is project- or activity-based, but SGDV supports both

…formal and informal learning… (S4G1)

SGDV is informal, since the content is created and used by the students themselves, but it is also formal, as the structure is provided by the instructor. One student claimed:

I prefer to acquire knowledge practically. It helps me to acquire specific skills that I can use later at any stage of my life. (S3G1)

The above student may have had a sense that theory might not be useful in real life, whereas practical knowledge and experience is necessary for the world of work. This perhaps points to a lack of awareness of the need to balance theory and practice.

On the other hand, another student reported:

> *I was able to understand the negative aspects of theory and practice, as well the positive outcomes. (S1G1)*

This response shows that the student did not wish to compromise the use of a theoretical lens to make sense of digital video projects. This student was able to establish links between theory and practice. Therefore, it was believed by at least some of the students that a combination of theory and practice was essential. If lecturers can maintain such a balance, they will be able to enhance student engagement.

Project Management - Challenges and Opportunities

Self-regulation, or students' ability to monitor, control and modify their behaviour, emotions and thoughts, is important when there is minimal supervision. This is because students involved in the creation of digital videos adopt a project management approach to their work:

> *Creating video requires project management skills. (S2G2)*

It also requires critical thinking, decision-making and problem-solving skills. However, two of the challenges faced by the students involved the creation of the actual video and team management.

According to one student:

> *...the video project was a challenge in itself and the other challenge was in video production and managing a team to achieve this goal. (S1G1)*

Although it may be assumed that students can self-regulate some aspects of their behaviour; it does not mean that they will always have full control. Failure to manage a team effectively during the

process of video production can be difficult for students and as a result, they may lose interest and motivation.

The Role of Intersubjectivity in Communication

When questioned how they communicated, all the students responded that they used WhatsApp, a mobile messaging app.

> *We did not want to communicate via emails, as we had to respond immediately to comments or provide feedback. We wanted something that was more instant. We communicated constantly via WhatsApp and exchanged experiences, opinions, ideas and tips, and received invitations to attend filming locations. (S2G1)*

The use of WhatsApp seemed to allow the students to share their thoughts and ideas about planning and creating videos in a spontaneous and immediate manner. It gave them the opportunity to check their messages easily, as compared to emails. The rationale for the students being able to *'communicate continuously using WhatsApp'* was so that they could send

> *…video clips and sound effects and exchange views, ideas and suggestions... (S2G1)*

to their peers and the lecturer. According to another student, they used WhatsApp:

> *To get everyone on the same page… The instant messaging software fostered instantaneous collaboration. (S3G1)*

As the students and the lecturer were able to consciously share a common set of values, it could be argued that intersubjectivity may have played a role in communication, as well as in the tasks.

The Lecturer as Facilitator

Lecturers who use authentic tasks, such as SGDV (or other authentic learning approaches), assume a role that differs from that of an instructor; they seek to bring the learner to a place of

understanding using student-centred approaches. In other words, they move away from teaching and instead become enablers of learning.

> *The lecturer provided complete support. He acted conscientiously and facilitated learning by socially interacting with students. He heard us, provided feedback, exchanged his opinions and allowed us to learn collaboratively. (S1G1)*

This lecturer (of Group 1) seemed to have promoted an emotionally supportive environment. As one student put it:

> *[T]he course lecturer was very thorough and dedicated. He partnered with us in the project and considered our success to be his responsibility. He was the catalyst who stimulated us. (S3G1)*

Another student elaborated:

> *He helped us whenever we had too many options on hand and were in a dilemma. Also, he encouraged us and taught us the importance of communication. (S2G1)*

Because the lecturer was facilitating the learning, the students mainly functioned autonomously.

Group 2

Adaptability and Sustainability

The students' adaptability was evident in their responses, especially when they reported self-determination and a willingness to plan, organise and take on new tasks.

> *What distinguishes my experience in this project is what I learnt. It allowed me to organise my work. The experience included knowledge of the entire video production effort from the planning stage to completion. (S1G2)*

Adaptability and an enthusiasm for taking part in the video project require adaptation of cognition and/or emotion to respond to new and novel situations. The following statements show how the

students were open to new ideas and concepts, to working autonomously and to carrying out the tasks.

> *It gave me the opportunity to examine content and practice skills that would ultimately culminate in the production of a high quality video. (S2G2)*

> *The most important experience was interviewing a number of specialists in sociology, psychology and childcare. I was in a position to direct the interview sessions, which to me, resembled a talk show. It was difficult and embarrassing at first, but I quickly adapted to the conditions and I now have more confidence in myself and in my abilities. (S2G2)*

The students recounted that they had adapted to the situation and developed the capacity to successfully overcome setbacks, challenges and adversity. They were willing to adapt and use the new technologies as an opportunity to learn. In other words, they were able to take advantage of learning opportunities and the authentic learning environment provided by the lecturer. The SGDV integration promoted and sustained adaptability by encouraging self-regulation. When engaged in the video-making activities, the students were able to recognise uncertainty or novelty and regulate cognition.

Promotes Creative Confidence

SGDV created a learning environment that helped the students to rediscover their creative confidence, or the ability to generate new ideas and attempt to realise them without fear or apprehension. In reflecting on their experience, one student stated:

> *I actually learned a lot of skills, including how to choose funky themes and create spaces for creativity. (S1G2)*

The above-mentioned student also understood the importance of meaningfully creating videos, stating:

> *One of my thoughts, which developed with my team members on this project, was that we could only meaningful create videos if we individually discovered new ideas, and mutually discussed those ideas before converting them into creative videos. (S1G2)*

Therefore, in order to be creative, it was claimed that a student needs to be able to make effective use of equipment and materials, such as:

…using advanced software for editing… skills in directing and using lenses and filters… [being able] *to produce creative work.* (S3G2)

Another student teacher realised that although the project was challenging, it had helped build students' confidence in their abilities, skills and experience:

This project increased my confidence in dealing with cameras, lights and microphones in the film locations, whether internal or external sites. I also learnt how to conduct interviews with people. (S4G2)

Overall, the video creation process and associated tasks provided the students with sufficient space for them to experience and express their emotions.

Autonomous Learning

In this case study, group work appeared to develop learning autonomy. By creating the videos, the students were able to rewind, set goals and control the pace of their learning. One thing that they did not wish to do was indulge in rote memorisation. As one student described:

> *One of the things I experienced was to be creative when forced to learn independently. I was able to retain information, although I did not have to read and memorise books. (S1G2)*

Furthermore, the students were able to create and present their own learning material.

I developed presentation skills which are essential for a broadcaster, especially storytelling skills. I learnt the use of cameras and camera angles and lighting. (S4G2)

In other words, the students were able to self-regulate their activities. This shows that self-regulation is pivotal to the success of independently creating videos. Besides enabling the students to become independent learners, the lecturer had also promoted self-evaluation in the classroom project by helping the students monitor their learning goals. The following statements exemplify this:

As a member of a group I evaluate my contributions to the group by asking my peers to check my work and ensure that it relates to our project goals. Likewise the work of other students is also checked by me. (S1G2)

…through discussions, self-assessment and critically examining the work of fellow students. (S4G2)

Self-regulation of learning and self-assessment can lead to improved student performance. The assessments and positive feedback from peers and the lecturer must have empowered the students to become motivated and self-regulated learners.

The responses relating to this theme also suggest that the lecturers supported student autonomy and self-determination, which in turn appeared to have increased intrinsic motivation, competence and self-esteem.

Capitalising on Team Dynamics

The students in this group were aware of the techniques for managing group dynamics. When responding to other interview questions, they had demonstrated that they were creative and adaptive. In order to resolve issues, the students formed a consensus and jointly addressed

problems, which suggests that they experienced a sense of community, or the feeling that they mattered to each other and to the group:

> *I was very focused and engaged in lengthy discussions with other students in the group and every skill we talked about, we applied directly through exercises and homework. (S1G2)*

This response demonstrates that the students had a sense of belonging to the team and a stake in its success. One member of the group (S4G2) described taking every opportunity to capitalise on the skills and talents of fellow team members.

> *It was a team effort. We carried out brainstorming to address issues that we faced when we created the short film, dividing roles and tasks depending on each individual's strengths. It was mutual cooperation - working with other members of the group and acting together to accomplish the job. (S4G2)*

These statements show that the students sought to produce high quality output by taking advantage of the strengths of their team members. It also indicates that the student groups developed into a cohesive unit, in order to reach a consensus on creating dynamic video content. The groups were characterised by the development of a sense of belonging and a sense of relatedness.

Collaborative Teamwork

The ability of the students to work together as a team and intertwine their thinking suggests that they wanted to share cognition. Teamwork can be greatly improved when a cognitive collaboration approach is applied, resulting in a more balanced team with greater collaboration and productivity.

The interview responses show that there was a common understanding among team members that collaboration was an integral part of the digital video activity. One student noted that:

> *The diversity of ideas and perceptions that arise at the stage of choosing the film theme idea, especially when involved in a group, was overwhelming. The question that I had during the project was 'What is something everyone would agree with?' and kept thinking how to socially interact and negotiate with everyone in the group project. (S4G2)*

This response establishes that cognitive diversity or a multiplicity of perspectives emerge when students work in groups. There was a confluence of different perspectives, experiences and diverse thinking styles, which contributed to the creation of the videos.

Forming a consensus through communication and discussion was the main objective of the team. The need for cooperation between team members was crucial for developing the video:

> *…during this project, I was able to gain more of an understanding of the process and to work collectively. I was thrilled that I was able to complete filming a short documentary about computer games and their impact on children. (S2G2)*

This form of collective learning can be viewed as the process of building and maintaining a shared conception of a problem. The project seemed to have enhanced collaboration, resulting in the production of creative videos. This is likely to have been achieved through collective creativity, the collaborative editing of storyboards and scripts, and mutual co-operation to support the production process.

Authentic Approaches

When asked what teaching method they would propose to the lecturer for facilitating learning in a student-driven classroom video project, the respondents suggested authentic problem-solving to

engage them and enhance their learning and motivation. Some of these proposals were outlined by students as follows:

> *I would propose an approach that gives importance to collaboration and developing 21st century skills. (S1G2)*

> *I would propose a project-based learning and teaching approach. (S2G2)*

Authentic tasks such as SGDV foster collaboration between students:

> *I consider collaboration to be central to the project. So I might propose a collaborative learning approach. (S3G2)*

These three statements demonstrate that the students favoured active, authentic and student-centred teaching approaches. While collaborative approaches ensure that teachers and students can mutually look for understanding, explanations or meanings, in order to create a product, problem-based learning enables learners to embrace complexity, develop creativity and solve real-world problems.

Balancing Practical and Theoretical Learning

When creating videos, students are faced with real-life situations and consequently, they are not in a position to apply what they have learned in theory. However, one student claimed to understand the importance of balancing the practical and theoretical aspects of making videos:

> *I would say that the practical and theoretical aspects complement each other when making videos. (S1G2)*

This student seems to have attained a substantial grounding in basic theoretical aspects, while also benefitting from hands-on experience through creating the video and working with the essential equipment. Participation in the project had minimised the theory-practice gap. This suggests that the students considered a balance between theory and practical activities as being important. A combination of lectures and practical activities can enhance student engagement.

Project Management - Challenges and Opportunities

Students engaged in SGDV tasks are less dependent on external teacher support. Under such circumstances, the ability to self-regulate can prove to be a challenge. However, according to one student, a major challenge of participating in a group was meeting the project deadlines:

> *My mission in this project is to prepare and write the scenario for this movie, summarise the problem, ask questions and search for appropriate people, who will not only take part in the movie, but also address the issue. There was some pressure, as I had to successfully meet the predetermined project deadlines. (S5G2)*

In order to set goals, students require self-management skills. They also need to evaluate resources. The importance of effective resource planning was emphasised by one student:

> *Video projects require a variety of equipment, like cameras and computers, editing software, lighting, etc. Organising the equipment and also identifying the skills of the team members continuously requires division of labour and effective communication. (S1G2)*

Self-regulation in this case implied the students' actual use and management of the various resources, strategies and tactics intended to achieve their objectives. Participant S1G2 was able to identify the resources and the competence required to actively manage the situation.

Role of Intersubjectivity in Communication

The students involved in the project developed social skills, such as cooperation and communication. They were communicating regularly to facilitate social understanding. According to one:

We constantly remain in touch with each other, both within the classroom and outside the college campus. We use mobile phones and social software, such as Snapchat, WhatsApp, etc. (S1G2)

Both student-student and student-lecturer collaboration were therefore enhanced through digital communication. This kind of cooperation implies intersubjective communication.

We collaborate and discuss all important aspects by communicating through several channels, face-to-face and via WhatsApp, and review our actions. (S2G2)

The respondents and the lecturer appeared to be using WhatsApp for communication and to coordinate their activities. It seemed to connect team members and the lecturer to create successful interpersonal relationships.

The Lecturer as Facilitator

When engaging students in an authentic classroom activity, such as SGDV, the role of the lecturer changes to that of 'activity facilitator'. According to the students, the lecturer engaged them in a collaborative activity, instilled confidence in them, and facilitated their learning through teacher-student interactions:

In this project, the positive side was that the lecturer showed confidence in our skills and trust in our abilities. It enhanced students' interest in the course. (S1G2)

In addition, the above student was of the opinion that the lecturer allowed the learners to actively construct their knowledge through engagement with the SGDV activity, giving them:

…valuable guidance, support and encouragement. (S1G2)

When the students sought advice on issues related to videos, such as shots and scenes, they received prompt and useful feedback.

The lecturer quickly responded to my messages via WhatsApp. (S1G2)

This suggests that the lecturer was coordinating the students, providing communication and vision, clarifying points, proposing ideas and ensuring that decisions and progress were being made.

Group 3:

Adaptability and Sustainability

Adaptability is considered to help students model a different approach to learning. Although some of the students had previous experience of using video equipment to make short films, participation in the video project appeared to have enhanced their adaptability and enabled them to accommodate change, especially as part of a team. According to one team member:

> *The project for me is easy and fun, because I have previous experience in the production of digital videos and have skills in photography and montage, and now I'm working with a team on this project, who also have expertise and skills in this area. (S1G3)*

This student also appeared to have insight into using the tools by adapting them; showing signs of being an adaptable learner with flexible thinking skills, the required level of focus, with sufficient self-determination for taking on new tasks and responsibilities, and for sustaining cognition to attain the objectives.

Fostering Reflection and Critical Thinking Skills

SGDV promoted the students' abilities to reflect on what was being taught in the classroom by the lecturers. This seemed to have helped the students in:

> *…making visual connections when using montage. (S2G3)*

As they made their videos, the students were able to make connections or link what they were doing with what the lecturers had taught them. They were also able to think metaphorically. By reflecting on their experiences they developed better insight.

This process also appeared to have enabled some of the students to create their:

…own basic conceptual model to plan, create and tell the story. (S3G3)

It basically demonstrates that the students were able to enhance their understanding by exploring what they thought was important. Critical thinking was therefore used to improve decision-making, planning and making judgements based on objectives. The afore-mentioned responses suggest that SGDV is a tool that can foster reflection and critical thinking skills.

Capitalising on Team Dynamics

The students engaged in the video project were intent on understanding and utilising:

…the strengths of all members of the group. (S4G3)

This was achieved by building a sense of belonging through a web of intellectual interactions. The subsequent sense of relatedness motivated the students when they were faced with challenges or difficulties during the process of creating the videos. They also seemed to be aware that they had to take maximum advantage of all team members if they were to make the project a success. As one student put it:

I was always worried about determining the best solution for the project, which required an understanding of the strengths and weakness of all concerned. (S5G3)

In other words, the students sought to complement one another. It was apparent from the above response that they wished to unlock the collective potential of all group members and to capitalise on their combined strengths.

We communicated constantly, debating about all the details of the project, which motivated me to perform well and achieve the common goals we had set. (S2G3)

Communication and co-operation seemed to have helped build teams and improve working relationships within them. This was confirmed by two students:

It was positive teamwork and cooperation. I think it's the first time that I was involved in a social relationship in a classroom. (S1G3)

…by participating in this course, I was able to form better relationships with fellow students and the lecturer. (S2G3)

These responses also suggest that the rich and collaborative process of digital video production allowed the students to find their own learning pathways. There was also their emotional need to belong to a close-knit team. As a result, by working in groups, there was empathy between them. The tasks associated with SGDV fostered cooperative learning and dialogue, which appeared to increase student-student interaction and to enhance the students' sense of belonging.

Collaborative Teamwork

Collaborating with team members can help students improve their competencies and ultimately increase team performance. The students in this project explained that although they had skills in photography and editing, they wished to further enhance their abilities through cognitive collaboration. In other words, they engaged in building and maintaining mutually shared cognition. According to one student:

I further developed my skills in photography and montage (editing) and learnt how to collaborate with other students when working as a team. I also learnt how to choose a background for the video. (S1G3)

The individual cognition of the students was consequently integrated and coordinated during the collaborative activities.

Authentic Approaches

The students' preferred teaching approaches included collaborative learning, real-life problem-solving, the creation of tangible and useful videos, and methods that allowed them to explore, discuss and meaningfully construct concepts and relationships. They suggested:

…approaches that foster independent learning… (S1G3)

…problem-based learning… (S2G3, S4G3)

and a strategy that would support:

…interaction, hands-on activities [that were] flexible… (S3G3)

It suggests that the students were not interested in approaches that focused on a structured curriculum and standardised tests. Rather, they favoured authentic real-world learning and assessment that included the application of practical, enquiry-based, context-driven and collaborative pedagogies.

The students engaged in the digital video project were intent on developing professional knowledge and competence. One team member asserted:

It was a generative task, and the activities or tasks that we had to carry out during the learning process allowed me to develop professional knowledge. (S3 G3)

However, during the learning process, the students also realised that the knowledge they were acquiring could be applied later on in their lives. One student claimed that she wanted to apply what she had learnt while producing the videos:

…to new problems in the college and in real life situations… (S4G3)

In other words, the students wished to develop professional knowledge and transfer the experience to other real-life settings, or to extend what they had learned during the video project to new contexts.

The Role of Intersubjectivity in Communication

The students engaged in creating the videos were exchanging ideas and cooperating on many issues. According to one student, the:

> *…basis of cooperation is determined by all members of the group. We always connect via WhatsApp and share our thoughts. We also meet outside classrooms to review our work and exchange ideas, opinions and proposals. (S2G3)*

The ideas that they shared were related to:

> *…scriptwriting, photography and montage… everyone made contributions. All dialogue and debate took place through WhatsApp, the mobile messaging app. (S3G3)*

The rationale for using WhatsApp was because it filled a coordinating function and enabled communication between the students and the lecturer. The students' responses suggest that the lecturer was using the app to informally build trust and allow the students to engage in the project. By carefully designing the project tasks, the lecturer must have enhanced intersubjectivity in a collaborative environment.

The Lecturer as Facilitator

The students observed a shift in the lecturers' role, which had

> *…created a problem-based lesson that included the creation of a digital video. He provided feedback to make revisions. (S1G3)*

This view was upheld by other students, who elaborated that:

> *The lecturer was able to provide valuable guidance to engage students in carrying out both independent and collaborative tasks. (S2G3)*

> *The lecturer provided an environment within which we were able to generate and receive prompt feedback that helped achieve our goal. (S5G3)*

These comments reveal that the students appreciated the emotional support received from the lecturer, who facilitated the learning process. The responses also suggest that feedback and revision during a project renders the learning meaningful.

6.3.2 Data Analysis: The Lecturer Interviews

Interviews were carried out with three lecturers. In order to maintain anonymity, the lecturers will be referred to here as LA, LB and LC; the letter 'L' indicating a lecturer, while the letters 'A', 'B' and 'C' substitute their individual names. The research question guiding this phase of the data analysis is:

How do lecturers use student-generated digital video (SGDV) to support students' engagement in their own learning? (Qualitative-Interviews/Observation/Focus Groups)

Thematic analysis enabled 27 codes to be derived from the data. However, some of the codes and initial themes were merged to form 10 sub-themes. Finally, three key themes emerged, which are discussed below along with the related sub-themes.

6.3.2.1 The Guided Team and Individualised Feedback

The sub-themes that emerged from the interview transcripts were '*timely feedback*', and '*coordination and feedback immediacy*'. Since these themes overlapped and were mutually supportive, they were merged to form the main theme: '*guided team and individualised feedback'*.

The lecturers were of the view that when the students were engaged in classroom activities, such as SGDV, they were able to evaluate individual students' performance to determine how well and in what way the students accomplished the learning objectives. However, when the students were working in groups, the provision of individualised, face-to-face feedback was found to be time-consuming and therefore challenging. This was the opinion of one lecturer (LA):

> *It is impossible to communicate with each and every student, so I divided the students in the classroom into small work groups consisting of three or four students. Each group was represented by a leader, who communicated with me on behalf of the others in the group. (LA)*

In order to generate detailed and constructive feedback, the lecturers provided feedback to the team by nominating one student as the team leader. They felt that in this way, appropriate feedback could be provided quickly and efficiently to all the students involved in the group work. According to one lecturer (LB), using the appropriate channel for communicating with the students was important for providing feedback. She remarked:

> *I usually ask the students to send the videos to me, so that I can provide feedback. When students receive their feedback via WhatsApp, they appear to find it a positive experience. (LB)*

The use of WhatsApp not only enhanced communication within the groups, but also encouraged whole-class dialogue and interaction. There was a sense of belonging in class. The students' preference for the use of instant messaging to receive immediate feedback on their digital videos was acknowledged by all the lecturers.

> *I used instant messaging to communicate with them in real time and most importantly, to provide timely feedback. (LA)*

This response indicates that the students co-ordinated with their team leader, who was able to manage the classroom discussions and facilitate real-time communication and feedback immediacy. The rationale for using this particular channel was given by one of the lecturers:

> *I could have used other applications or email, but I used WhatsApp to engage the learners. In doing so, I tried to foster lecturer-learner relationships. (LA)*

The third lecturer (LC), however, preferred email for communication:

> *I normally ask students to send what they have created via email or social software, so that I can review it and ensure that the content is appropriate.*

Emerging technologies, such as mobile phones and apps, allow lecturers to coordinate students' activities, as well as to assess the quality of their work and provide timely feedback. This feedback supports students as they focus their efforts on improving their skills and knowledge.

Besides, the students also collaborated and coordinated with their peers to obtain peer-feedback. This was observed by all three lecturers (LA, LB and LC), who reported that the students were:

> *…recording, capturing and posting images immediately online, or sharing them with others via Facebook, or other mobile apps, so that they [could] get personalised feedback... (LA)*

and that

> *Through this WhatsApp group, I communicate with my students and get to know their problems and the difficulties they face, and comment on the video footage. I try to send them my feedback immediately. Although email also serves as an ideal form of communication, I prefer to use the app as a tool for coordinating learning, making assessments and providing feedback. (LB)*

> *Students share the videos they generated with their fellow colleagues[sic], review and make adjustments. (LC)*

The lecturers consequently viewed this mode of communication from a co-constructivist perspective, which stresses that while instructors provide feedback, students learn through dialogue and participation in shared experiences.

The lecturers seemed to have realised that by using WhatsApp groups as a learning platform, they could improve the accessibility of the learning materials and performance within the learning activities. It reveals that students may not always wish to check their email inboxes to retrieve their lecturers' comments; instead, they tend to prefer instant messaging apps for feedback immediacy.

If students receive feedback immediately after submitting their work, it is all the more effective for their learning.

6.3.2.2 Dynamic, Interactive Learning Environments

'*Active engagement*' '*hands-on independent learning*' and the '*creation of dynamic learning environments*' were the sub-themes that were merged to form a single meaningful theme: '*dynamic, interactive learning environments*'.

Active Engagement

When the lecturers sought to create an ideal learning environment, in which their students could generate videos, they decided to focus on teaching practices that would be suitable for fostering student engagement. Thus, the lecturers provided active learning instructional strategies, which provided many opportunities for active engagement through cooperative learning activities. They had already outlined and explained the tasks to the students, as well as what was expected of them. Moreover, they had modelled the activity (the SGDV), guided practice, fostered independent learning and assessed the students' work. In other words, the lecturers' aim was to engage the students in a self-regulated problem-solving activity. In order to foster active engagement, they created:

> *…student groups, encourage[d] them to hold discussions, and motivate[d] them to accomplish their tasks. This was essential for creating a collaborative learning environment where teamwork thrives… I actively involved students in the project and understood their learning needs by assessing them regularly. The outcome was the creation of authentic student generated videos. (LA)*

The lecturers' responses suggest that the students valued the assigned task of creating digital videos, understood its relevance from the point of view of classroom instruction, and perceived its application to real-life situations. The lecturers' intention was to position the students as active learners, who would create content by connecting with the course concepts, ask themselves

relevant questions, look for answers, engage in group discussion, and interact with their lecturers. In other words, the lecturers were able to tap into what truly motivated the students, whereby they provided active learning opportunities and encouraged self-regulation, in order to enhance their learner-centred classrooms.

Creation of Dynamic Learning Environments

The interactive learning activity involved dynamic student-teacher collaboration, with the lecturer promoting critical thinking skills and encouraging the students to find solutions to problems on their own. The dynamic learning environment created by the lecturer also promoted active learning. In the words of one lecturer:

> *I observed students engaging with the product and collaborating with each other. They were working in groups to carry out challenging tasks. (LC)*

They had integrated the digital video project, so that the task of creating the video would:

> *….kindle independent thinking and problem-solving in areas such as script development, selecting camera angles and editing video. (LA)*

Additionally, the digital video project motivated the students to learn on their own. This observation was made by one lecturer:

> *Students on this project demonstrated that they had a strong desire to experiment, to practice and learn, as well as to discover things about themselves that they did not already know. Whenever they were faced with a difficulty, they would seek my comments and feedback. I encouraged them to first discuss amongst themselves before approaching me. (LB)*

This response demonstrates that the lecturer gave the students the freedom to select members of their team, engage in discussion and carry out the tasks independently. Nevertheless, while the

students were interactive and totally supportive of one another, they also sought the guidance of their lecturer:

> *I received several messages on my phone requesting me to guide them. They appeared to understand that working with digital video allows them to practice skills that they could use later in their professional lives. (LC)*

Hands-on Independent Learning

Student engagement also requires lecturers to provide personal and instructional support, intended to enable the development of autonomy. This required:

> *…establishing positive relationships with learners (LB).*
>
> *These relationships are useful for understanding the needs of students and what their objectives are, in order to plan and develop lessons which engage them and which are important for their professional lives. (LB)*

In order to actively engage the students, the lecturers used instructional approaches that assisted in the development of student autonomy. One lecturer, providing structure and guidance to foster learner autonomy, claimed:

> *I provided autonomy support to students. I encouraged them to learn independently but guided their learning and activity. (LC)*

The hands-on experience gave the students the confidence to create visual content that also engaged them in the learning process:

> *The students were using new ways of becoming engaged learners. This could be seen in the way they interacted with visual content during the production of the video. (LA)*

The students were learning by doing or learning through experience. It should be noted that it was the lecturers who were responsible for involving the students in activities and tasks and for teaching them to critically think about what they were doing:

> *The students who engaged in the video projects depended more on their abilities and competence during the learning process. They were always thoughtful and searching for distinctive ideas that they could use while filming the video and the mechanism for implementing their plans. They were also looking for sources on the Internet… (LC)*

The lecturers were of the opinion that SGDV and related activities were relevant to real-world situations, as they motivated the students to explore and discover new things:

> *I involved the students in 'real life' activities… During the video-making process, the students acted professionally and were asking questions. The student- generated videos appeared to have allowed the students to learn differently, that is, to think critically. (LB)*

The lecturers' responses suggest that the hands-on experience and effort made by the students had a major impact on how they used camera equipment and the relevant software. They were able to gain knowledge acquired through experience and involvement in real-world situations. The dynamic interactive learning environment created by the lecturers was aligned with constructivist strategies and enabled active learning, because the students learned through action and reflection.

6.3.2.3 Learner-centred Teaching Strategies

The four sub-themes that led to the creation of the broad theme: '*learner-centred teaching strategies*' consisted of: '*encouraging student-centred learning*', '*brainstorm learning*', '*facilitator*', and '*scaffolding student reflection*'.

Encouraging student-centred learning

Traditional teaching methods involve lectures and rote instruction and these approaches do not help students acquire a deep understanding of a subject or activity, or the skills to solve problems,

think critically and communicate their thoughts in a logical manner. This necessitated an instructional shift and the need for student-centred learning environments, in which the lecturers could build relationships with the students and encourage them to become responsible, self-motivated and self-evaluating learners. One lecturer who had established such relationships with the students stated:

> *My relationships with the students developed when I had real-time interactions with them, that is, when they were engaged in the video project and were experiencing some difficulties, such as poor audio, wrong video delivery formats, and poor or unclear communication of ideas. To me, such interactions influenced my teaching practice. (LB)*

Other instances of lecturer-student interaction, resulting in the development of pedagogic practice, were exemplified by the following responses:

> *I also receive feedback from students about my role and my practices, which helps me to further improve my teaching approaches. I was able to improve the planning of classroom activities. (LB)*

The interactions during the project also provided fuller feedback about my teaching practices. (LC)

> *The above statements show that the student-centred learning environment created by the lecturers fostered trust and strong relationships between the lecturers and students and between the learners themselves.*

Brainstorm Learning

Student-centred teaching strategies focus on instructional activities that actively engage students in constructing knowledge through collaborative group work. By working in groups, students have the opportunity to see how their peers think and create new ideas. One lecturer confirmed:

> *Through dialogue and negotiation, the students were seen identifying problems, for example: those associated with camera angles and issues related to editing, as well as generating new ideas and drawing conclusions. (LA)*

When creating videos in the context of the regular curriculum, the students who worked in groups had to be encouraged to take part in the brainstorming sessions. This was confirmed by one respondent, who claimed that:

> *Students took part in group discussions, which were related to making the video and instructional video concepts. I observed them going through notes that they had made on paper and using that knowledge to improve their work. (LB)*

The significance of group work, discussions and learning was also observed in another classroom:

> *…they accessed their prior knowledge, discussed new ideas, engaged in discussions and used creative and innovative ways to create the video. (LC)*

Facilitator

In student-centred learning environments, lecturers are expected to be able to transform classrooms into dynamic, engaging learning environments, in which students take responsibility for their own learning. One lecturer stated:

> *…the focus of activity had shifted from me, the lecturer, to the students. (LA)*

Although the students were keen on becoming independent learners and making use of the context and real-life situations, they did not refrain from questioning the lecturers. For their part, the lecturers provided support through interaction. According to one lecturer:

> *Interaction was crucial, especially for providing real-time remediation. Through interactions, I donned the role of mentor and guided the students to construct knowledge. (LA)*

The lecturer welcomed questions from the students and interacted by giving advice, but did not provide the actual answers:

> *I am willing to help students, but I do not provide solutions or answers to problems easily. (LB)*

The lecturers worked together with the students in accomplishing the task of creating videos:

> *I pay more attention to understanding the way in which the students think… transfer the responsibility for the learning process to the students, so that they can learn independently. (LA)*

The above remark shows that the lecturer had moved away from traditional teaching and was facilitating learning by allowing the students to take responsibility for their learning. Another lecturer also demonstrated the competence to facilitate learning:

> *I do encourage them to look for important information that supports their projects and helps them solve any problems that they may encounter during their projects. I ensured that they had Internet connectivity to access online resources. I encouraged peer interaction and teaching. (LB)*

The lecturer's intent was to develop critical thinking skills, help the learners solve problems independently, and encourage them to be responsible for their own learning. Another lecturer described his role quite succinctly:

> *I had to give importance to collaborative group work and avoid lectures. I stopped the use of standardised tests in the classroom to assess student performance. (LC)*

The responses indicate that the role of the lecturers was that of facilitating student learning by helping and encouraging the students to develop their skills, while also empowering them to become partners in the learning process. The intention of the lecturers was to pay attention to the needs of the students holistically, that is by developing a sense of belonging.

Scaffolding Student Reflection

Learner-centred teaching strategies also include scaffolding student reflection. According to one lecturer (LA), he managed to enable the students to make sense of their experience:

> *I wanted the students to be able to relate and construct meaning from their experiences. This required reflection. But, not all students may have the ability to recollect what they have learnt in the past and apply it in an activity. I had coached the students on how to reflect, asking them to maintain logs or make notes for this purpose. By reflecting on their own and on their peers' work, the students were able to create the video successfully. (LA)*

The lecturers also appeared to have provided temporary support structures to assist the students in creating a video that they could not have achieved on their own. This is evident from the following statement:

> *I am not sure if students can enhance their level of reflection by using technology. I believe that lecturers have to guide students through a period of reflection. (LB)*

> *I had asked them to maintain a diary to note down their reflections. By reading these diaries, I was able to find out more about the students' outlook, difficulties and accomplishments. (LB)*

The lecturers also developed the students' capacity for reflective thinking and taught them how to learn through experience:

> *The digital video project was a task that I helped model. I wanted the students to learn how to make the video independently by referring to the theoretical aspects I had taught them earlier. Learning occurs when the students learn independently with some guidance. (LC)*

By encouraging students to reflect and then apply their reflections, the lecturers appeared to have taught the students how to learn and reflect through strategic interventions and careful scaffolding. In other words, they sought the optimal level of challenge that would engage their students.

6.3.3 Data Analysis: The Focus Groups

A purposive sample of undergraduates was identified by the three lecturers. These students had not taken part in the interviews. There were three groups of students and each group consisted of six participants. A total of 18 students (male, *n* 6; female, *n*=12) were recruited. The groups were identified as 'Group 1', 'Group 2' and 'Group 3'. The students and the groups consisted of the following:

Table 4: The division and coding of the groups

Group (Lecturer wise)	No. of Students	Student Pseudonyms
Group 1	N=6 (Male)	S1G1, S2G1, etc.
Group 2	N=6 (Female)	S1G2, S2G2, etc.
Group 3	N=6 (Female)	S1G3, S2G3, etc.

(S=Student and G=Group)

The names of the students were anonymised by referring to them as S1G1, S2G1, etc. These codes included the number assigned to each student and the group to which they belonged. The data were gathered and analysed, in order to answer the research question:

> *'How do students engage in their learning when incorporating student-generated digital video in the classroom?'*

The focus groups were conducted in a classroom and lasted between 40 minutes and one hour. Audio- and video-recordings of the focus groups were transcribed verbatim. Individuals other than the researcher were then asked to check the transcripts against the recordings for accuracy.

Although the focus groups and semi-structured interviews (carried out prior to the focus groups) were analysed separately, both sets of data generated six overlapping themes. The themes were created after categorising 108 references. The emerging themes are presented below, on the basis of their relevance to the research question.

Fostering Effective Group Dynamics in an Active Learning Environment

The students from all three groups were able achieve their objectives in a constructivist learning environment, which encouraged them to participate, engage in active learning, thoughtfully reflect on their past experiences and monitor their progress. The digital video project had stimulated participation and impacted positively on the learning process. The learners were subsequently able to resolve any issues that they faced during the creation of the videos.

On one occasion, we faced a problem with lenses and the best ways to choose and use them… we asked the group members to seek guidance from external professionals, with whom they had personal relationships and we were able to resolve the issue. (S2G1)

They were able to solve problems that they could not have deciphered on their own**.** In order to arrive at a shared understanding of the processes involved in video production, the students welcomed suggestions and views from all sides.

Suggestions and views are always welcome. They sometimes open attractive prospects never thought of before. They enhance creativity. (S2G1)

The aim was to actively construct knowledge by accepting the suggestions of all team members. They consequently came up:

> *…with perspectives and used the best idea or suggestion for making modifications to the project. (S3G2)*

According to one student:

> *Even irrational ideas were discussed. (S6G1)*

When asked why this was the case, one student remarked that it gave team members the opportunity:

> *…to justify the rationale for their views. If they were able to logically explain that their ideas were appropriate, we would accept it. (S5G2)*

One student, who was in favour of welcoming feedback and suggestions from everyone, commented:

> *I accept constructive criticism and I was surprised that most team members did provide useful feedback. Their suggestions and comments helped in modifying some portions of my work. (S1G3)*

The reason for welcoming suggestions from all team members was to motivate everyone. Each participant also had the opportunity to critically examine the work of fellow students (S5G2). In other words, all team members were encouraged to form and express their own opinion and take responsibility for their views. They were also taking responsibility for their actions.

The students belonging to the three groups were constructing their own understanding by reminiscing on what they had experienced in the past and reflecting on those experiences. One student said:

> *When involved in the project, I was always looking for ideas that I had used previously. In other words, by comparing previous knowledge, I was able to construct new understanding of current ideas and thoughts about the video project. For example, how I had manipulated video functions and output in the past, and then using these ideas to generate new ones during group discussions. (S6G1)*

Some students also critically reviewed their work by stepping outside their own realm to gain a better understanding.

I always looked at what I did from an outside perspective and made necessary changes to produce the video. (S2G1)

They also offered their work to other members to obtain valuable feedback, self-regulate and maximise their task performance and support the group's goals.

The process of evaluating a team mate's work gave us a better understanding of the video we made and the process it involved. We assessed our work, so that we could help all individual members to improve their own work. (S3G2)

The students appeared to be very aware of the importance of reflection in learning. They had realised that reflecting on their work and their experiences would encourage a better understanding and multi-faceted learning. As a result, they were able to better organise themselves and assess their weaknesses, which is evident in the following statements:

In the previous projects… I was very loosely organised. Reflecting on the previous experience, I made all efforts to organise myself very well, especially prior to the commencement of the project. (S6G2)

I started assessing my weaknesses by reflecting on my past. It helped me develop the capacity to critically self-evaluate the quality of my work. (S4G2)

The students in all three groups were making self-assessments to evaluate their own progress and support the objectives of their respective groups.

Creating a video as part of learning a lesson gave us the opportunity to take control of our own learning. Besides, as members of the team, we were able to monitor our own progress. (S3G3)

This shows that the students wished to foster their own growth by controlling their learning. In order to monitor their progress, they were willing to assess their work both individually and as a group.

I was able to assess my own progress by comparing my understanding of the various tasks involved in creating the video with prior knowledge. (S1G3)

The students in this digital video project were given opportunities by their lecturers to learn constructively, according to their learning style. The responses suggest that almost all the students understood the group dynamics and were actively engaged in video production using flexible learning approaches.

Generating a Cycle of Engagement

The students' responses suggest that they had acquired some key skills for making videos. If students acquire skills in writing scripts, directing videos, using cameras appropriately or editing films, it indicates that they may have had the opportunity to practice and received adequate support from their lecturers and peers. To achieve competence in digital video production, students need to be motivated to engage with their tasks by the lecturer and fellow team members. The lecturers and peers facilitating learning and practice may also have provided adequate feedback, so that the participants could acquire the necessary skills and in turn, this may have motivated the students to connect with their learning and engage in the learning process. During this cycle of meaningful involvement, the students appeared to have reflected and taken action to achieve their goals.

During the focus group sessions, the students indicated that they were motivated and although they were part of a team, they also competed with each other. This was because they wanted to do well individually, in addition to working collectively for the team, as one student explained (S3G1).

There was a strong sense of responsibility. We were inspired by the team, the lecturer and other experts in the field. (S4G2)

Another reason for taking part in the video project was because the various activities and processes related to video production stimulated curiosity in some of the students.

I was motivated to take part in the project, because student-generated digital video was something that was relevant to me and the team. The project stimulated curiosity. (S3G3)

One student claimed that peer-encouragement had helped motivate him.

When we were halfway through the project, I started to tense out and felt that my motivation level had plummeted. However, other team mates encouraged me, which in turn increased my confidence. (S2G3)

The students appeared to be aware that engagement with the learning was crucial. Engaged students can interact with lecturers and peers. Moreover, students with the required skills will be motivated to engage further. This was implied in the students' responses. According to one team member:

The very nature of the project, and the way the lecturer had integrated the video project into the curriculum, enhanced student engagement. (S6G1)

The lecturer had given the students the freedom to learn and provided a space for flexible learning beyond the classroom walls.

This independence has resulted in increased student engagement. (S5G1)

There were opportunities for freely expressing feelings, thoughts or ideas. The students were sharing their thoughts and ideas, modifying them and integrating them into their own understanding. In the process, they were engaging with each other's ideas.

Although the tasks were challenging, the convergence of ideas from different members helped us overcome the problems, especially in editing and searching for appropriate sound effects. This increased our engagement in the project. (S3G2)

It was the lecturers who had designed the tasks that engaged the students in actively acquiring knowledge about creating videos and it was the lecturers' feedback that led to student engagement.

> *The lecturer had integrated the video project and actively engaged us in creating the video. The way in which the lecturer evaluated the performance of the team against set criteria and provided feedback must have enhanced student engagement. (S3G3)*

This response shows that there was a clear connection between feedback and engagement, which motivated the student. Relatedness among the students and with the lecturers was built through interaction and feedback. The lecturers fostered a sense of connection with the students, which motivated and enhanced student engagement.

One important sub-theme that emerged from the focus groups was the students' motivational orientation, which refers to the goals that the students wished to ultimately achieve by taking part in the project and learning how to make videos. The students commented that by participating in the project:

> *[I] wanted to excel in it and use the skills in later life. (S6G1)*

> *…we feel that the skills we acquired will be relevant to the real world. (S3G1)*

These responses suggest that most of the tasks that the students were engaged in were designed for real-life purposes. In other words, the students were motivated and wanted to perform well in their tasks by achieving competence. The aspiration of one student was in fact:

> *…to be a television producer. What I learnt during the [SGDV] project is expected to provide opportunities later on in my life. This feeling enhanced my engagement when creating the video. (S4G3)*

Although the students did not talk much about their goals or hopes, they made it explicitly clear that they would use this opportunity (to make videos) to enhance their employability. This not only motivated them, but also increased their engagement. Overall, the responses demonstrated that SGDV fostered the students' sense of autonomy, competence and relatedness, resulting in them participating actively in the tasks.

Accepting Reality

One of the difficult tasks involved in taking part in a group activity is accepting one's current reality. The students in this video project needed to cultivate the ability to truly accept anything that transpired and embrace it. This can only be achieved if students have a positive mind-set. Their discussions indeed show that they did not refuse to accept reality, but rather welcomed the challenges. In other words, they challenged reality.

In response to the question about the difficulties they faced while executing the digital video project, most of the students in the three groups commented that the project presented a special challenge. One of the students stated:

> *I found it difficult acquiring the skills for imaging modes and also for identifying the adequate equipment for location shooting. (S5G1)*

Another expressed his frustration by claiming that a

> *…lack of technical support…*
>
> *had caused problems (S3G1)*

This shows that the students were ambitious, but frustrated that their technical abilities limited the quality of their videos. Nevertheless, they persevered, as is evident in the following statement:

> *…we enjoyed our work and we benefited greatly. (S5G1)*

Moreover, there were conflicting views and opinions expressed by some team members which frustrated their peers. One student commented:

> *I experienced this when we were arguing about camera angles for filming. In fact, there was a kind of confusion at the shooting site. … [it] was a learning curve and we will be able to sort out such issues more amicably in the future. (S6G2)*

This response suggests that the student had accepted this frustration as a challenge. The students did not want any incompatibilities or misunderstandings between team members to lead to conflict. In order to resolve these issues, they had mutual discussions, as described by one student:

> *Even if we disagreed, we wanted to hear everyone's voice. (S5G2)*

This statement shows that although the students were exasperated when there were conflicts, they did not allow frustration to dampen their motivation.

Other challenges that the students faced included the environment in which they were carrying out the project:

> *For me, one of the disadvantages was shooting in outdoor locales in Kuwait, which is known for its arid, dry and hot climate. Despite the difficulties, I found the task of creating a video on my own and along with members of my team very exhilarating. (S1G3)*

These responses indicate that the students appeared to have responded to the situations in a positive way, despite the challenges that they faced.

Positive Interdependence

When analysing the transcripts, some frequently occurring themes, such as collaboration, cooperation and teamwork were identified. These themes were merged to form one overarching theme of '*positive interdependence*'. The group discussions revealed that the students from all three groups shared common goals and believed that if they worked together, they would be able to learn from each other and produce quality videos. During the focus group sessions, they explained that they depended on each other for learning and achieving a common goal.

> *When I lacked certain skills, for example in the use of software for editing, I would ask a peer to help me out. The objective was to achieve a common goal. (S4G2)*

This demonstrates that the students were seeking the support of peers to acquire new skills, requesting feedback from peers, and becoming more involved in the video creation activities and

in their own learning. This interdependence was evident in the way that they cooperated, collaborated, learned and worked cohesively as a team. Two other students reported:

> *I have benefited greatly from one of my colleagues, who had previous experience in performing arts. (S5G1)*

> *I guess that it is in everyone's interest to cooperate in the video project, because teamwork calls for everyone to complement each other. (S4G2)*

Students worked closely with members of their team in most activities and pooled their expertise and questions in an attempt to solve the problems encountered in their learning.

> *All of us came together as a team… in new roles as authors, scriptwriters, photographers, directors, etc. I liked the idea of forming teams to achieve a certain goal. Although we were students and did not have any real significant experience in producing films, this project gave us the opportunity to exchange ideas and learn from each other. (S4G1)*

This shows that the students interacted with those around them to support their learning. They believed that the interactions were absolutely essential when working as a team. According to one team member:

> *The digital video project created a loose environment, in which we were able to share ideas and work together. What I learnt from the project was to be a team member and strive for a common purpose. (S1G3)*

The students were able to freely interact with their peers, because of the informal environment that the digital video project had created. They felt more:

> *…relaxed and free when interacting with a peer… (S6G1)*

They also found that their peers and fellow team mates were more

> *…approachable… (S4G3)*

Besides,

> *…there were no power differentials between the students and their peers… (S4G3)*

Through peer-interaction, division of labour and collaboration, the students seemed to emphasise the significance of teamwork and cooperation. According to one student:

> *Teamwork in video projects is absolutely vital. I think it is difficult to produce a high-quality video without a team… working as one cohesive unit. But at the same time understanding and consensus was essential, which created a collective encouraging environment. (S1G2)*

There was division of labour, which helped the students separate their tasks out, while still working towards successfully creating the video.

> *By dividing the roles, we were able to successfully complete the project. For example, I often joined in with the rest and submitted ideas and suggestions for directing, photography and editing and we mutually discussed them before making the best decision. (S6G1)*

This response demonstrates that the students were able to disprove the myth that division of labour fragments and isolates members of a team. The reason for breaking the assignment down into separate tasks, while creating just one video, was because the students believed that different team members can introduce different viewpoints and ideas, as compared to just one student, who would only look at a problem or issue from one perspective.

On the whole, the students met the challenge of learning new skills by interacting with their peers. This direct interaction between the students may have promoted active learning and improved team-based skills. Through a cooperative learning approach, the students were dividing their teams, learning from others, and at the same time contributing collectively to produce their videos.

Balancing Practical and Theoretical Learning

Authentic learning occurs when students are engaged. One way to enhance student learning is to integrate theory with learning through experience or learning by doing. The students had gained practical knowledge from undertaking the digital video project, such as how to use video cameras, editing, etc. However, some felt that the theoretical concepts taught to them by the lecturers did not complement practice and only offered a glorified picture of what practice could be. The following comment shows that some aspects of film-making can only be acquired through practical experience:

> *Digital video projects in external locations require different types of imaging and I was not able to use the theoretical knowledge that I had gained in the classroom. (S5G1)*

The rationale for seeking and possessing practical knowledge was made explicit by one student:

> *I found it difficult to apply some of the lecturer's theoretical and technical instructions related to photography on location. (S4G1)*

In order to minimise the theory-practice gap, the students seemed to have decided on receiving real-world, hands-on experience by creating the video and working with essential equipment. They also wanted their lecturers to accompany them when they were producing videos in outdoor locales.

> *…what we had learnt in the classrooms was theoretical and we initially had difficulty in translating theory into practice. I wish that the lecturer could also have accompanied us and facilitated our work in the field. (S1G1)*

One respondent was of the opinion that the students needed:

> *…more guidance on choosing good filming conditions, camera movements, proper lighting and other necessary skills that would have an impact on the final product. (S3G1)*

And if the lecturers had accompanied them, they would have benefited from practical experience (S2G1).

A better harmonisation of theory and practice could therefore enhance student engagement.

The Lecturer as Facilitator

Lecturers who integrate active, problem-based and interactive learning approaches use students' interests as the basis for planning learning tasks. The students reported that they were able to use the technologies and resources for making videos, because the lecturer had integrated the SGDV project into the curriculum. The students therefore revealed that the lecturers had developed learning tasks, which allowed them to build the skills required for independent and collaborative learning. One student elaborated that although she had the freedom to learn at her own pace along with her team, it was not at the expense of explicit teaching:

Although we had freedom to do what we wanted during the project, the lecturer did not give us the go-ahead, until we had discussed our idea and plans with her. (S4G2)

The lecturer in the above-mentioned case wanted the students to take responsibility for their learning, but she also wanted them understand what they were doing. For this purpose, she may have explained, demonstrated and used models and examples to engage the students.

The lecturer showed us examples of former students' projects, explaining their strengths and weaknesses. She explained the most important elements of the documentary film, focusing more on photography, lighting, directing angles but always urging us to be creative. (S5G2)

In so doing, the above-mentioned lecturer had helped the students understand how to make tasks more meaningful and showed them practical cases, instead of textbook examples. Therefore, the students claimed that the lecturers were "*actually collaborating*" and not *"lecturing"* (S6G2) by

…facilitating learning through theory and practice… (S5G1)

As a result, the students were able to film:

> *…several shots of one object from different angles and [subjected] the video clip to editing and composition, so that it matched the script, and then using sound effects required artistic vision and skills. I would like to thank the lecturer for providing theoretical and practical knowledge on these aspects of video production. (S3G3)*

Another student recalled that the lecturer had:

> *…spent hours outside of the lecture - of his own time - and we met as a team to discuss a video that we had produced. He reviewed the video and pointed out the mistakes that we had made. His suggestions were valuable for creating a better film. (S2G1)*

According to the students, the lecturer was not the provider of information, but rather a facilitator who enabled the students' learning.

> *The lecturer played the role of an enabler, who facilitated the learning… giving us the freedom to learn on our own. (S3G2)*

The students were of the view that their lecturers had moved towards a more student-centred view of learning; suggesting a change in the role of the instructor. According to the respondents, the lecturers:

> *…allowed us the space to learn on our own. It encouraged and gives us absolute freedom to carry out the project. (S1G2)*

They lecturers had consequently facilitated the students' learning by giving them more responsibility and freedom. As the students were engaged in active learning experiences, the lecturers promoted a sense of ownership and responsibility by taking on a receptive role and interacting positively with the learners:

> *My interactions with the lecturer were very essential [sic] for understanding the key concepts. The interactions also enabled the lecturer to understand my ideas on the*

> *project… mutual understanding. I see that whenever there is a continuing and positive interaction between him and me, there is an increased level of engagement in the learning. (S6G1)*

This demonstrates that the lecturer was listening and responding to the students, in order to make them feel valued. The students were also encouraged to seek the guidance of professionals from outside the college:

> *What I liked in the first place was the style of lecturer, who allowed us to produce videos by consulting professionals in this area. I was able to gain real-world knowledge by dealing with real professionals, such as television directors and learning new techniques in photography. (S5G2)*

The students also articulated their experience of feedback.

> *I was able to get instantaneous feedback. Moreover, the lecturer was able to actively engage us in the learning process. (S4G3)*

The feedback was directed at enabling the students to gain a better understanding of a concept. The feedback was part of the student-lecturer interactions. It provided the students with the means of distinguishing the progress they were making individually and as a team. According to one student:

> *Student-lecturer interactions were positive, as the lecturer was able to critically appraise our work and provide timely feedback. The constructive criticism enhanced student engagement and helped improve the final product. (S6G2)*

The students reported that by viewing the lecturers' feedback, they were able to enjoy greater learning benefits. They also believed that the lecturers were assisting them to learn within a supportive relationship:

The lecturer was responsive to our educational and emotional needs. The lecturer showed genuine interest in the project and in our success. (S1G3)

The analysis of the focus group data shows that the novelty of the digital video project appeared to have captured the students' imagination. When asked what they enjoyed about the project, the students commented that they were content with the collaborative learning experience provided by the constructivist-based learning environment and with the feedback and support received from their lecturers. There was evidence of peer-teaching and a shared learning experience. The students motivated each other during the project, but expressed emotions that included some frustration and a great deal of excitement. Moreover, they respected individual differences and abilities when working collectively to produce the videos using their own knowledge.

6.3.4 Data Analysis: The Observations

The data collected from classroom observations was gathered and analysed, in order to answer the research questions:

'How do lecturers use student-generated digital video (SGDV) to support students' engagement in their own learning?'

'How do students engage in their learning when incorporating SGDV in the classroom?'

Three classroom observations were conducted at the College of Basic Education. The classroom sessions were video-recorded. However, the researcher was merely an observer and did not actively participate in the classroom activities. The number of observations in each class ranged from one to two. Lessons in content areas related to Instructional Television and related classroom activities were observed. Notes were made in the schedule during the observations and the observations lasted for the entire duration of the observed lessons. The observation data were then analysed, which generated themes similar to those that had emerged from the interview data.

6.3.4.1 Lecturers' Use of Student-generated Digital Video (SGDV) to Support Students' Engagement in Their Own Learning

The themes *'active learning'*, *'culture of inn*ovation' and *'empowered students'* emerged to help answer the corresponding research question. These themes helped identify the conditions in the classroom and how the lecturers supported student learning.

Active Learning

The first theme that became apparent was '*active* learning', facilitated by actively participating in the learning process. The lecturers were using this student-centred approach, so that the students could learn by taking part in discussion, analysis, thinking, reflecting, problem-solving and performing tasks. In other words, the lecturers sought to address the students' growth and potential. Unlike conventional teaching, there was no attempt made to deliver lectures; the lesson was designed to demonstrate the relationship between experience and reflection in the active learning process and therefore, it was not structured:

> *The lesson is unstructured and involves showing films in various stages of production. Lessons typically involve the display of some video clips created by students of each team.* (Classroom 3)

The students were responsible for carrying out the activities with less specific direction from the lecturers. However, the lecturers showed the learners samples produced by former students, so that they could discover something new and apply their knowledge to create new videos. The lecturers:

> *[P]resented them with a number of good films and software programmes as examples. The main intention was to expose students to the creative works of other (former) students and stimulate creativity.* (Classroom 1)

The goal of the lecturer was to allow the students to analyse real-life situations by taking into account the Instructional Television course material:

> *[S]tudents developed their ideas and built [sic] their final perceptions, reflected on what they learnt from the videos of former students, and reconceptualised or formed new concepts from the experiences. The objective was to enhance the students' observation and develop critical thinking among them by asking them to distinguish between 'good' and 'bad' videos.* (Classroom 2)

This suggests that the students were able to reflect on and integrate abstract concepts, in order to better understand the videos shown to them and then create new ones based on that experience. They acknowledged that the lecturers also facilitated learning through discussion and feedback:

> *[T]he lecturer discussed students' work and progress in their projects and answered questions.* (Classroom 1)

This was the case in all the classrooms, where the lecturers were:

> *[A]nswering questions and discussing the progress of students with their projects.* (Classroom 2)

The students were given the opportunity to look back through their activities and tasks and make changes. In other words, the lecturers were reinforcing the idea of creating new videos through trial and error experimentation; for instance, in the choice of topic, equipment and location:

> *The lecturer provided opportunities for the students to solve problems… Some of the problems were related to logic behind the idea for choosing the topic for the movie or video, based on the script (the storyboard), the suitability of the technology, software or equipment for this type of production, as well as the locale chosen for filming.* (Classroom 1)

This helped the students to analyse the situation and apply their knowledge, skills and appropriate techniques to produce the videos. The opportunities for feedback and reflection provided by the lecturers helped achieve powerful learning outcomes, such as enhanced motivation and self-evaluation:

> *…increasing students' confidence in themselves and in their abilities and identifying the main strengths and weaknesses of their work.* (Classroom 1)

The video-production task assigned to the students was aimed at encouraging them to learn by doing. They were therefore being motivated through contextual learning. From the observations, it was evident that the student groups gained most from active learning, as it was an alternate learning method. The approach helped them solve digital video-production problems that were relevant to their lives.

Culture of Innovation

The next theme that became evident was '*culture of innovation'*. The lecturers at the College of Basic Education were innovative in their thinking about how to improve educational practices, so that they could better prepare their students for their future lives, possibly in the capacity of director, cinematographer, editor, producer, etc. The first step in that direction was to enable the students to experiment and learn. For this, they used flexible approaches, allowing collaboration, as well as providing the necessary time and space. Most importantly, the lecturers offered the students the opportunity to be creative:

> *[T]he lecturer was flexible and allowed the student to discuss, be creative and produce the videos at their own pace.* (Classroom 1)

The lecturers were guiding the students through minimal facilitation by offering possibilities to learn at their own pace and then standing back, giving the students the chance:

> …to identify what's good and what's not good from this work. Students were able to develop ideas by watching and reviewing these films. (Classroom 2)

The environment created by the lecturers allowed the students to initiate and maintain new conversations through the open exchange of ideas:

> *From the interactions in the classroom, I was able to determine that the students had the liberty to design their own videos, be creative, collaborate and complete the task at their own pace.* (Classroom 3)

The students were also given the opportunity to work on alternative ideas:

> *[T]he objective of the educational TV course was to develop students' skills in the production of good and creative videos. The students had used aerial filming techniques by using a camera on remote-controlled aircraft.* (Classroom 1)

By allowing the students to learn at their own pace and encouraging them to participate in the generation of new ideas, the lecturers were democratising innovation. In other words, they sought to create a culture of innovation, so that there would be an overall improvement in the student experience.

Empowered Students

The third theme to emerge was '*empowered students'*. SGDV created engaging learning environments, both inside and outside the classroom. The lecturers were able to give the students a more empowering role in their own learning by listening and supporting their active role in creating videos. The students were empowered through a 'bottom-up' educational process, which is illustrated in the following note:

> *The lecturer interacted with them and participated with the students in discussions, shared ideas and gave them suggestions. In short, the lecturer played a supportive role and*

facilitated the learning. The students took on the roles of video producer and consumer. (Classroom 1)

The lecturers were aware that the students were worthy of trust and should have the basic freedom to make choices; for instance, over the topics for the videos that they were creating. The lecturers gave:

…students the freedom to choose the ideas and topics. (Classroom 1)

…the students full liberty to select and use programs that they deemed appropriate for editing videos. (Classroom 2)

Since the students were allowed to make choices about aspects of their assigned task, there was an increased sense of independence.

The lecturer not only gave them absolute freedom in managing and producing videos, but also to discover their own mistakes and learn from them. (Classroom 3)

This freedom helped develop strong self-concepts in the students, as they had the power to direct their own learning. The lecturers provided opportunities for contributions and participation. As a result, the students were empowered learners. This also increased student participation in decisions that mattered to them:

Although there were discussions between the lecturer and the students about their ideas and plans, and the lecturer provided some suggestions, it was the students who ultimately made the decisions. (Classroom 1)

The students were also able to act effectively and control their own learning experience. In addition, the lecturers seemed to realise that the students were free to pursue their own interests and therefore made suggestions for the creation of better videos. By empowering the students to adopt an active role in their own learning, the lecturers enabled them to become independent learners:

> *The prompt feedback provided by the lecturer allowed the students to make changes and edit their videos. The lecturer gave the students the freedom to achieve their artistic vision when processing the videos.* (Classroom 2)

> *Students had the opportunity to show their product to friends or professionals, receive feedback and make changes.* (Classroom 1)

The freedom to identify problems, obtain feedback and make changes to the videos that they had created led to an increase in student engagement and motivation:

> *The lecturer provided feedback, which helped the students. The lecturer's suggestions and comments were very critical and the students graciously accepted the constructive criticism and discussion about their work.* (Classroom 1)

The corrective feedback encouraged the students to continue to learn from the task at hand. This also showed that the lecturers were creating strategies to deliver positive feedback without damaging the lecturer-student relationship. Moreover, the power to choose had created a sense of ownership over the videos amongst the students.

> *The lecturer facilitated meaningful discourse and allowed the students to present and explain the concepts behind their videos. The lecturer allowed the students to take ownership of their ideas, and to explain and defend their approaches.* (Classroom 3)

It had therefore not only broadened the students' sense of responsibility, but had also improved teacher-student relationships. By interacting with the students, providing feedback, enhancing student learning in the creation of videos, and increasing students' sense of ownership of the learning, the lecturers had empowered the students.

6.3.4.2 Students' Use of SGDVs to Engage in Their Learning

The themes '*collaboration and negotiation*', '*constructive criticism*', *'building reflection skills'*, and *'learning through modelling'* are directly related to answering the second research question.

'How do students engage in their learning when incorporating SGDV into the classroom?'

Collaboration and Negotiation

The students acted independently, collaborated with team members, and negotiated with the lecturer and peers to engage in their learning. The digital video project had encouraged the students to become more engaged in their learning through interaction. Interaction within the classroom was lively, as the students had shared interests:

> *Students are accustomed to each other, working together and complementing each other.* (Classroom 1)

Through interaction a process of peer-mediation, the students were able to constructively resolve problems related to their work. They were observed:

> *…exchanging conversations and discussing their list. All the groups followed this procedure.* (Classroom 1)

The lecturers allowed the students to engage in a collaborative-social learning environment, which greatly encouraged them. The lecturer announced that the students could take their videos home and show them:

> *…to peers and other professionals and gain new ideas. The purpose of the out-of-class assignment must have been to help restructure their thinking.* (Classroom 3)

This allowed the students to discuss issues with their peers and to reflect on their own work, as well as on the video clips that the lecturers showed in the classroom. The motivation derived by the

students from the interactive negotiation encouraged them even more, as the following observation suggests:

> *Although the lecture was long (four hours), I did not notice any sign of boredom or apathy. Even during break time, there were group members sharing their ideas and conversing with their lecturer about their project plans.* (Classroom 1)

This shows that the students were actively engaged in the project and had high expectations of themselves. They displayed higher levels of motivation to learn how to produce digital videos. In other words, they were able to edit videos, write copy, and develop concepts and techniques post-production and through negotiation.

The negotiation between the students and their lecturers, coupled with the expert guidance provided by faculty members, facilitated learning in the area of Instructional Television. Although the classrooms where the observations took place were not fully equipped with typical instructional video equipment or the relevant technology, the students were motivated. This shows that the lecturers had the ability to inspire and engage the students. However, there were several cultural hurdles for intercultural communication. These critical incidents included:

> *[The] classroom gets louder as the students talk over one another and over other groups* (Classroom 1)

> *…mobile technology disruptions…* (Classroom 2)

> *…excessive cell phone usage…* (Classroom 3)

This is likely to have prompted the lecturers to exercise some control. Although the lecturers wished to give more responsibility to the students for their learning, they also wanted to retain some control. It was observed that:

> *The lecturer's consent was a necessary condition, before the students commenced the project.* (Classroom 1)

It indicated that the lecturers did not totally abdicate control of the classroom.

Constructive Criticism

The lecturer was observed providing the students with regular feedback on their performance via WhatsApp. Upon looking at some of the messages sent by the lecturer, it was concluded that the feedback was not generalised or superficial. On the contrary, it was positive, which was integral to the assessment process. In order to provide useful and valuable feedback, the lecturer:

> *…allowed the students to show clips of their films and the entire class was allowed to talk about their videos. The lecturer provided feedback, which helped the students. The suggestions and comments from the lecturer were highly critical and the students graciously accepted the constructive criticism and discussion on their work.* (Classroom 1)

However, the students were given the freedom to choose from among the many suggestions provided by the lecturer:

Although there were discussions between the lecturer and the students about their ideas and plans, and the lecturer provided some suggestions, it was the students who had the right to decide. The students identified their own mistakes and learnt from them. (Classroom 1)

This was also the situation in Classroom 2, where the lecturer made comments, so that the students could:

> *…deconstruct the feedback during the discussions.* (Classroom 2)

The prompt feedback provided by the lecturer and the ensuing discussions:

> *…allowed the students to make changes and edit the videos* (Classroom 2)

In another classroom, the lecturer:

> *…facilitated meaningful discourse and allowed the students to present and explain the concepts behind their videos. The lecturer allowed the students to take ownership of their ideas, and to explain and defend their approaches.* (Classroom 3)

The constructive feedback was regular and seemed to help the students maintain and increase their motivation. It was also observed that the students were confident.

Building Reflective Skills

The students were observed showing their videos to colleagues to receive feedback and make changes in Classroom 1. They were also observed:

> *…using the editing software to make the final edits after viewing the footage with the team, and deciding what shots were required and what should be omitted.* (Classroom 1)

The task of presenting the videos to their peers and talking about what the team members thought of the product was probably intended to improve their reflective and metacognition skills. Some of the students were also seen discussing and generating their own ideas based on reflection. They jotted down their ideas on a small whiteboard. In another classroom, some students were observed demonstrating their ability to think critically by engaging in:

> *…informal dialogue about the films, especially related to photographic editing and transitions between scenes.* (Classroom 2)

By meeting in small groups and engaging in discussion, the students were attempting to synthesise their new learning. The lecturers who integrated reflection into the SGDV tasks appeared to be modelling metacognitive thinking in their teaching.

Learning through Modelling

The lecturers not only wanted the students to watch what others (fellow team members or other teams) had produced, but also to retain the information. Therefore, they provided cognitive steps by showing how videos had previously been made by other students. The reason for this was to verify that the procedures were understood by the students. The lecturers subsequently gave the students the opportunity to independently demonstrate their knowledge by recreating or editing their videos. For instance, lecturers were observed showing films and video projects produced by former students on the Instructional Television course. Consequently, the following observation was made about the lecturers' intention that:

> *…students develop their ideas and build their final perceptions, reflect on what they learnt from the videos by former students, and reconceptualise or form new concepts from the experiences. The objective was to enhance students' observation and to develop critical thinking among the learners by asking them to distinguish between 'good' and 'bad' videos.* (Classroom 2)

This is in accordance with the DiAL-e framework, as the lecturer used scaffolding or stimulated learning by showing the students models or exemplar digital videos. The intention was to enhance student engagement.

Overall the results of the observations suggest that the students were positive about the digital video project and this was reflected in their creative videos and enthusiasm for the meaningful activities. The combination of project-based learning principles, meaningful learning, and learning with technology had influenced the success of the digital video project. The students took on the role of video producers and users. Conversely, the lecturers played a supportive role and facilitated the learning. Their mentoring and coaching ultimately enhanced and developed the students as producers.

6.4 Summary

A combination of multiple methods, both qualitative and quantitative, was adopted to answer the research questions and fulfil the aims and objectives of this qualitative case study. The data analysis plan framing the enquiry process led to the emergence of major themes and to the presentation of the findings. The findings are geared towards addressing the three key research questions, which motivated this investigation into student engagement in higher education classrooms that incorporate SGDV activities.

The main themes here comprise '*adaptability', 'active learning', 'authentic approaches', 'lecturers as facilitators', 'capitalising on team dynamics', 'overcoming challenges', 'creative confidence', 'collaborative teamwork', 'culture of innovation'* and '*empowered and adaptable learners'*. These themes conjointly define the SGDV Model of Engagement, which is suggested as a general, logical, conceptual framework for exploring student engagement with real-life, complex, unstructured and research-like activities.

The findings suggest that the SGDV Model of Engagement integrates components from different streams of research, while also being heavily grounded in the data. To support this claim, conclusions drawn from these findings will be further discussed in the following Discussion Chapter, by revisiting the major themes and linking them to the key literature (see Chapters Two and Three).

Chapter 7: Discussion

7.1 Introduction

This research study explores the use of SGDV to enhance student engagement by gathering the perspectives of students and lecturers, and by observing the research participants. This chapter will now interpret and discusses the findings from the data collected using questionnaires, semi-structured interviews, focus groups and observations. The objective was to make sense of large amounts of information, first by reducing the raw data and then categorising what is significant. Another purpose of this chapter is to integrate the findings of the overall study with the research questions and methods adopted. The chapter relates this analysis to current and previous literature on the topic. The findings are subsequently discussed to either confirm what is already known about the use of SGDV in classroom projects and its support for student engagement. Finally, the chapter summarises the findings, deconstructs the results, creates an SGDV model and communicates the essence of what the data reveal.

This chapter consists of sections that comparing and contrast data, as well as presenting the findings from the data gathered from students and lecturers, as well as the quantitative findings. It then identifies the key findings, before discussing the general research findings and the proposed SGDV Model for learner engagement. Finally, a section will be dedicated to summarising the main points put forward in this chapter.

7.2 Comparing and Contrasting Data

The results of analysing the combined qualitative and quantitative data were compared and contrasted for synthesis through data transformation and through qualitising all data. To be able to synthesise student data from multiple sources, the results of the quantitative analysis were transformed into narrative descriptions of key variables and compared with qualitative themes or patterns (Figure 4). The mapping allowed the themes resulting from the qualitative thematic analysis to be compared and contrasted with the findings from the quantitative analysis. The data

obtained from the lecturers were qualitative in nature, but also combined (Figure 5). The figures or maps (Figures 4 and 5) show how the themes (and sub-themes) relate to each of the three research questions.

7.2.1 The Students' Data

As can be seen in Figure 5, the initial themes emerging from the analysis of the student data consisted of 11 themes from the interviews (adaptability and sustainability, promotes creative confidence, fostering reflection, autonomous learning, capitalising on team dynamics, collaborative teamwork, authentic approaches, the role of intersubjectivity in communication, balancing practical and theoretical learning, project management challenges and opportunities, and the lecturer as facilitator); six from the focus groups (accepting reality, generating a cycle of engagement, positive interdependence, fostering effective group dynamics in an active learning environment, the lecturer as facilitator and balancing practical and theoretical learning); four from the classroom observations (collaboration and negotiation, constructive criticism, building reflection skills, and learning through modelling), and 10 from the questionnaires (using technology in various ways, monitoring and evaluating their progress, assessing the work of others, developing their own ability to learn, building on or developing further digital videos created by others, authentic learning, collectively building knowledge, fostering teamwork and collaboration, deeper learning and group discussions).

Four broad themes were then identified after merging the initial themes from all the data sources (interviews, focus groups, observations and questionnaires): adaptability, active learning, authentic approaches and overcoming challenges. Next, the findings from the multiple data sources were compared. The comparison of the findings from the qualitative and quantitative components of the student data brought forward both overlying and divergent aspects of students' engagement in their learning when using SGDV.

Most of the themes derived were associated with student engagement, namely active learning (self-regulated or autonomous learning, reflection and critical thinking skills, teamwork and

collaboration) and authentic approaches (the lecturer as facilitator; intersubjectivity in communication or group discussions) were supported by both the qualitative and quantitative data, as shown in Figure 5. However, some of the themes emerging from a thematic analysis of the qualitative data were not clearly present in the results of the quantitative analysis (for example, 'accepting reality' and 'overcoming challenges'). While the interview and focus group data indicated that the role of the lecturer seemed to affect student engagement, such a finding was not evident from quantitative data. Furthermore, whereas the interviews showed that most of the students faced challenges during the SGDV project, the data gathered from the focus groups did not support this. In other words, what the students expressed in the focus groups was not always reflected in the interviews or questionnaires.

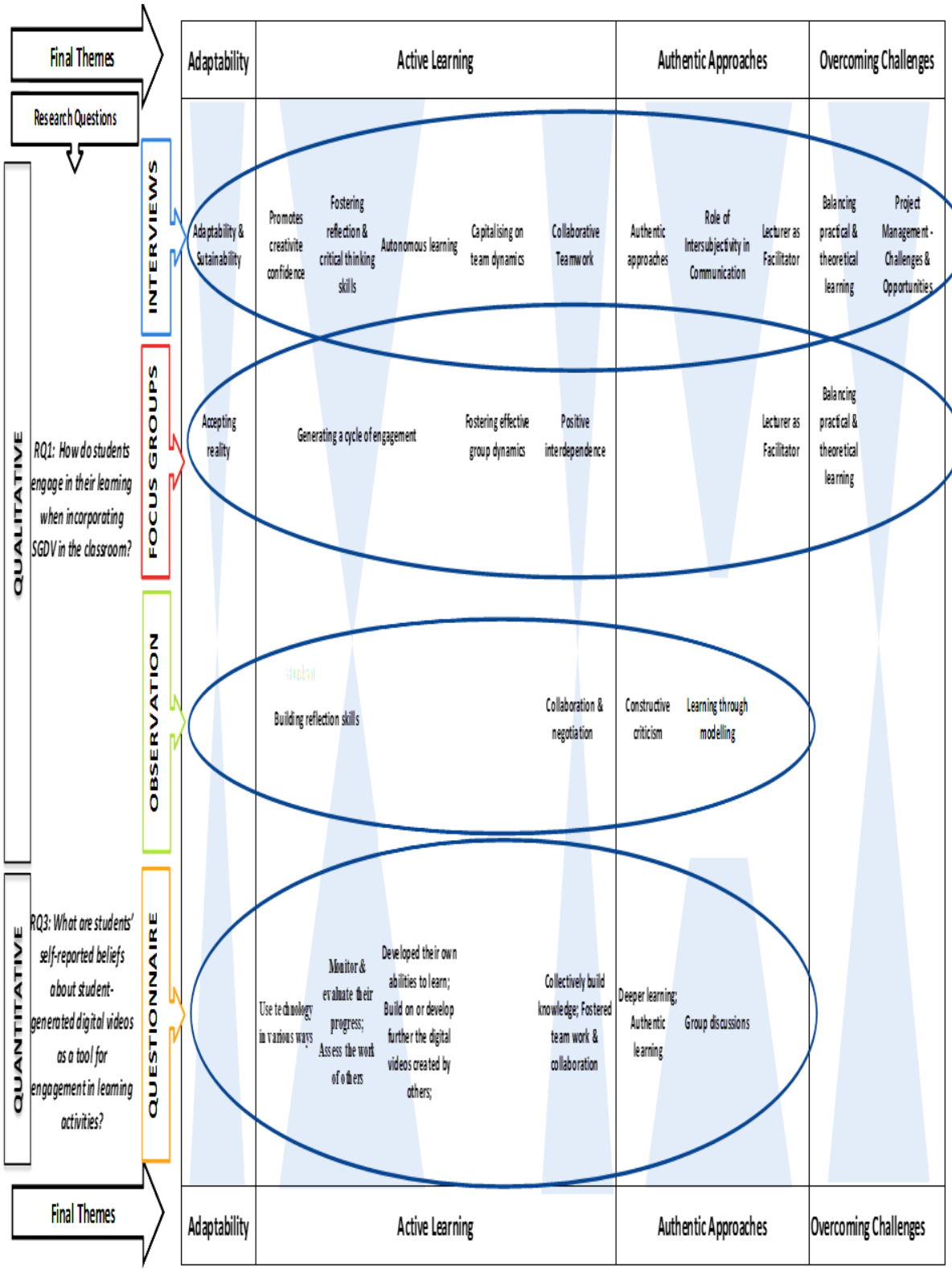

Figure 4: **Map of themes - analysis of data obtained from the students**

Overall, the results of the qualitative thematic analysis provided more insightful evidence about the nature and supporting mechanisms of student engagement through active participation in learning and collaborative learning environment. These insights allowed the present researcher to gain an

enriched understanding of contextual aspects of student engagement in their learning when they used SGDV, which could not be adequately established through questionnaires alone.

7.2.2 The Lecturers' Data

As in the case of student data, the themes that emerged from an analysis of lecturers' data were also merged. As shown in Figure 5, the themes that were initially identified included nine themes from the interviews and three from the classroom observations. Three final themes were identified after merging the initial themes from the two data sources:

Table 3: Deriving the final themes

Final themes	Initial themes	
	Interviews (6 initial themes)	Observations (3 initial themes)
1. Guided team and individualised feedback	1. Timely feedback; 2. Coordination and feedback immediacy	
2. Dynamic, interactive learning environments	3. Creation of dynamic learning environments; 4. Hands-on independent learning; 5. Active engagement	1. Culture of innovation; 2. Active learning
3. Learner-centred teaching strategies	6. Encouraging student-centred learning; 7. Brainstorm learning; 8. Facilitator; 9. Scaffolding student reflection	3. Empowered students

The data obtained from the observations, which were then used to supplement the interview data are illustrated in Figure 6 (below). Interview data were not considered on their own but, constantly compared with the observation data. This meant that the data were treated as a whole, as opposed to being fragmented. This comparison of the data allowed the researcher to identify emerging and unanticipated themes (Anderson, 2010).

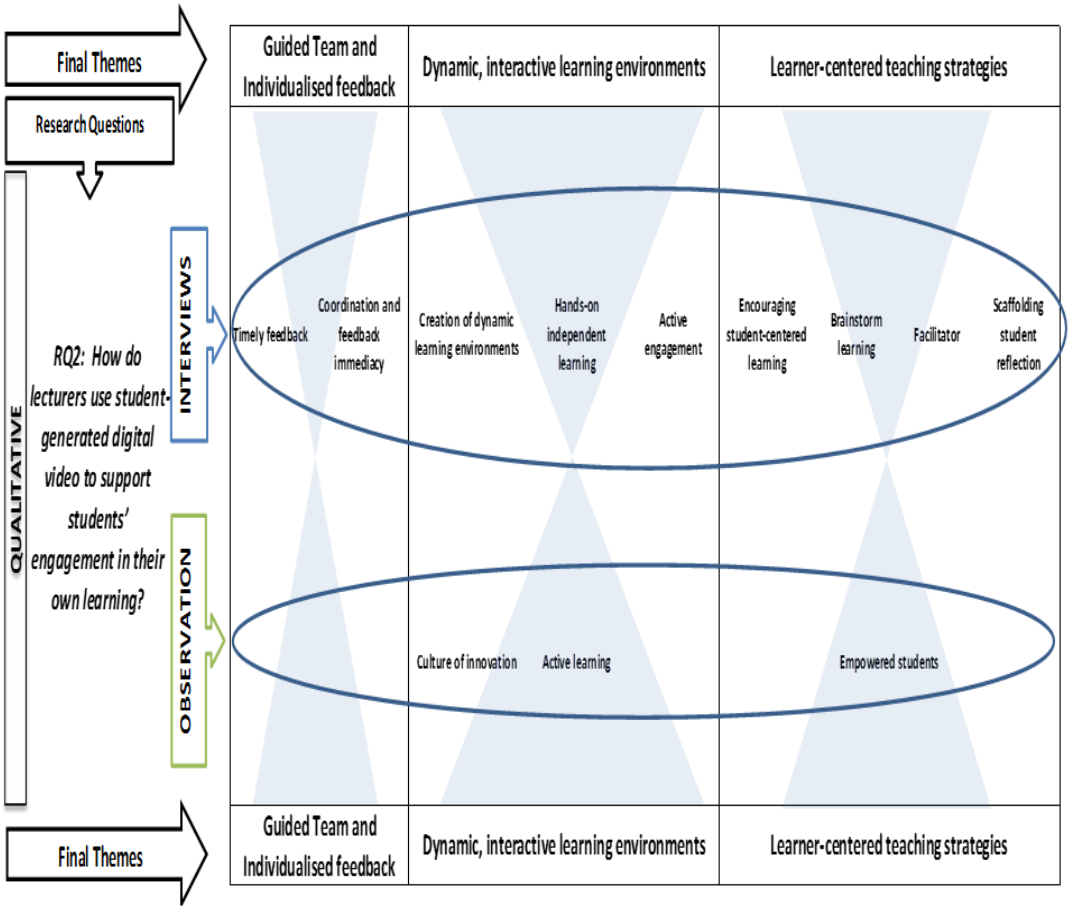

Figure 5: **Map of themes - analysis of the data obtained from the lecturers**

When comparing the two datasets, the interview transcripts and observation records were examined closely and the main themes listed. The initial themes were then further separated into more specific final themes. Overall, the qualitative analysis yielded several divergent aspects of student engagement in a dynamic learning environment aimed at promoting student-centred learning.

7.3 Findings from the Student Data

The research question exploring how the integration of SGDV can encourage student engagement and advance student learning was:

'*How do students engage in their learning when incorporating student-generated digital video (SGDV) in the classroom?*'

The final themes that helped answer the first research question were *'adaptability', 'active learning', 'authentic approaches'* and *'overcoming challenges'*.

7.3.1 Final Theme 1: Adaptability

As referenced earlier in the literature review, if students are to become competitive, they must be equipped with 21st century skills, which will allow them to develop flexibility, adaptability, resourcefulness as active learners (Fuchs, Hauck & Müller-Hartmann, 2012; Keane, Keane & Blicblau 2013). Students' responses to the interview questions indicate that it was adaptability that helped them to model a different approach to learning. Adaptability is the ability to adjust to change and uncertainty by responding to changing situations and learning environments. Although some students had previous experience in the use of video equipment to make short films, participation in the video project seemed to have enhanced their adaptability and enabled them to accommodate change, especially as part of a team. The students' adaptability was evident in their responses, especially when they reported that there was self-determination and willingness to take risks in their group-related tasks and SGDV-related activities. The students felt that the video-making activity was exciting, which suggests that they were comfortable with the idea of change and were willing to adapt to the changes around them. The motivated students had high expectations of success and raised the value of the tasks, in order to achieve their goals. They also self-regulated their learning by adapting their existing knowledge to create the video through 'assimilation' and 'accommodation, which according to Piaget, are the two complementary processes of adaptation (Kalpana, 2014; Mensah, 2015). The ultimate goal of this was to construct knowledge.

As the students were active and willing to adapt, they were able to think critically and find solutions to the problems that they faced when making the video. This finding is congruent with earlier

results, indicating that the need to be provided with an appropriate learning environment, if they were to adapt to the technology (Herrington & Kervin, 2007; Hubbard, 2012; Yuan et al., 2016). The students communicated well and interacted with their peers, enacted different roles simultaneously, recognised the abilities of others, assumed accountability and responsibility, and demonstrated flexibility. By being adaptable, they were then able to develop organisational skills. These results suggest that the incorporation of SGDV videos can increase student ownership and autonomy, as well as encouraging meaningful interactions and roles (Kearney & Schuck, 2006).

In short, the students seemed to have rapidly adapted to the new technologies that were used for creating the videos and thrived in this stimulating learning environment. Nevertheless, the lecturers also appeared to have given the students the opportunity to use the essential tools to make the videos and solve problems during the video-making process. This suggests that students alone cannot adapt to change and lecturers must play a key role in creating suitable conditions or situations, which may have allowed the learners to adapt to a given problem. This finding is congruent with the perspectives of O'Donoghue (2014), who argued that students may find it difficult, if they are not supported during the video-production process. Therefore, from a pedagogic perspective, SGDV was used to adapt the learning environment to fit the learning styles and preferences of the students. The hybrid learning environments created by the lecturers gave the students the opportunity to adapt the technology for their learning. Therefore, one of the significant findings of this study is that SGDV has the potential for tailoring instruction to meet the students' needs.

The theme '*adaptability*' and the findings that helped generate it suggest that there was a sense of belonging among the students. This finding upholds the views of Taylor and Parsons (2011) that students who are engaged when they participate in learning activities cultivate positive feelings and outcomes in their academic as well as social lives. The students in the present study had high expectations of the learning environment (Littejohn et al., 2010) and were motivated to make the videos, although they were faced with new demands and tasks. The findings seem to suggest that

the students had high expectations of the SGDV tasks and were more engaged behaviourally (i.e. they were more active in the SGDV tasks), intellectually (i.e. they appeared to be intrinsically motivated and demonstrated that they were deeply immersed in the learning), and emotionally (i.e. they expressed feelings of fulfilment, willingness, and interest). This validates and upholds the views of researchers who claim that student engagement is a multi-dimensional construct (Yonezawa, Jones & Joselowsky, 2009; Reschly & Christenson, 2012; Veiga, 2016).

Another theme that was merged to create the main theme of *'adaptability'* was *'accepting reality'*, which emerged from the analysis of the transcripts of the focus group discussions. The overall impression was that the students were positive about SGDV and that they realistically accepted the realities of the situation they were in. Some of the challenges they faced were the lack of adequate equipment and technical support. By understanding and accepting the realities of the new learning situation, however, they were able to adapt to the learning environment.

The very nature of the SGDV project was to allow students to take part in a group activity, collaborate and make a video. Although it was difficult, due to the individual differences between the students, they took part in the project by accepting the existing reality. The group activities were characterised by uncertainty, but the students accepted and embraced the situation by effectively managing interdependent team members. Even when there were strong disagreements within the group, they discussed the issues and came up with proposals by combining elements of several different ideas. This indicates that the students had a positive mind-set. The students' discussions show that they did not refuse to accept reality, but rather welcomed the challenges. In other words, they challenged reality.

The overall finding associated with the theme *'adaptability'* is that the students who created the videos accepted the reality of the situation they were in and adapted to the new performance tasks, the roles they assumed and the collaborative approach, developing the ability to adjust to uncertainty and ambiguity, and thus accommodating change. SGDV involves the process of learning-by-doing and as the literature suggests, the students were able to develop the capacity to

cope with and adapt to the situation (Evans & Hardaker, 2015). They also developed the ability to learn from previous experiences of both success and failure and apply these during the video creation process. In other words, the students were not only able to accept reality, but also to make dynamic changes in reaction to an altered situation. In order to adapt to a situation, individuals need complex reasoning and thinking skills. The results that helped create this theme demonstrate that the students possessed cognitive ability, problem-solving and decision-making skills, metacognitive skills, the ability to interact and self-awareness.

7.3.2 Final Theme 2: Active Learning

One of the key findings of this study was the evidence of critical engagement among students. The interview and data analysis of the focus group discussion helped to identify three dimensions of student engagement: behavioural, intellectual and emotional (Conner, 2016). These three dimensions were identified in the students who participated in the SGDV project. This suggests that the learning environment allowed the students to actively, intellectually and emotionally engage in the SGDV project.

It was apparent from the interviews and the focus groups that one of the indicators of engagement was the students' emotional reactions and feelings in connection with the SGDV tasks. When talking about how they engaged with the tasks students often used expressions which reflected positive or negative feelings and reactions. Most students expressed feelings of happiness, fun, satisfaction and motivation. They were content with the relationships that they had with the lecturers and their peers. There were no negative feelings, although they were faced with challenges when handling the camera or when editing the videos.

In contrast to emotional engagement, intellectual engagement is related to students' intentions. The students were satisfied with the way that their lecturers facilitated learning and supported self-regulated learning. They were willing to accept these pedagogical approaches, suggesting that they relished the challenge of doing things differently by comprehending complex ideas and mastering

difficult skills. Behavioural engagement was evident in the responses which indicated that they had made efforts, showed persistence, actively focused on their tasks and showed positive conduct by being part of a group in meeting project deadlines. It was also not apparent from the classroom observation that students were involved in disruptive actions. The most important outcome was that peer-feedback and 'convergence of ideas' helped the students to resolve the problems that they faced when creating the videos. This finding is consistent with previous studies, which have demonstrated that when students are involved in educationally purposeful activities, such as the creation of videos, there will be increased student engagement and motivation (Schuck & Kearney, 2004; Greene & Crespi, 2012; Kearney, 2012; Halter & Levin, 2014). In turn, this will lead to high quality learning (Coates, 2005).

One of the factors that enhanced students' commitment to learning was creativity. There was increased learner engagement and the interview responses from the students indicate that the SGDV may have promoted creativity and facilitated the development of analytical reasoning. Creating their own videos gave the students opportunities to think, discuss and act. Creativity involves the use of different thinking skills, as well as decision-making. In order to become creative film makers, the students appeared to have refrained from memorisation. In the context of Kuwaiti traditional learning, methods such as rote memorisation are still in vogue. The students who were involved in the SGDV project seemed to have realised that memorisation cannot produce meaningful learning experiences. On the other hand they were asking thought-provoking questions in order to develop a better understanding. When creating the videos, the students were sharing ideas, discussing options, and using knowledge gained earlier from lecturers and textbooks. The activity allowed them to develop a sophisticated range of knowledge and skills, for instance critical and analytical skills. Additionally, through reflection, the students were able to learn to organise and express their thoughts. This finding is in line with earlier research findings, which suggest that SGDV projects foster reflective practices (Herrington & Herrington, 2006; Hui & Koplin, 2011), help improve creative thinking and innovation skills, and develop critical thinking and problem-solving

abilities (Barron & Darling-Hammond, 2008; Groff, 2013) which is crucial for critically analysing video content (Hubbard, 2012).

SGDV fostered active learning, as it engaged students more deeply in the process of learning by encouraging critical thinking as well as self-directed learning. The students were able to analyse, interpret, reflect and evaluate the videos, resolve issues and make decisions or judgements based on objectives. Finally, there was closure to the activity via reflection. These elements are components of successful active learning. Besides fostering reflection and critical thinking, the SGDV project also promoted independent learning. The students reported that they had become responsible for their own learning. This suggests that the incorporation of SGDV can increase student ownership and autonomy (Kearney & Schuck, 2006). Unlike traditional classrooms, the Instructional Television course integrating SGDV allowed the students to take ownership of the content. As the students had the responsibility of creating quality videos, they had become responsible for their own learning, but did not ignore the suggestions of peers and lecturers about how to approach the project.

The students felt more appreciated when the learning environment allowed them to be critical and reflective. The reflective practices enabled the students to be imaginative, to recreate previous happenings and to arrive at results through experimentation (Walters, 2011). The experience empowered and motivated the students, making them feel qualified and capable of learning on their own and acquiring knowledge. It also made them autonomous, so that they became self-directed learners, who were free to experiment. During the interviews, the students reiterated that they preferred autonomous learning, as they did not want to depend on lecturers. Being autonomous allowed them to put forward logical arguments, gain confidence, have their own opinions and to defend them. This reveals that the students were self-determined and had the freedom of expressing their own ideas, the flexibility and openness for innovation, self-assessment, and most importantly for exchange of ideas. In other words, they knew how to control their own learning. This shows that self-regulation is essential for the success of creating videos. These results

concur with the findings of previous studies that have found that SGDV can encourage meaningful interactions and transform students from being passive into autonomous learners (Kearney & Schuck, 2006; Fuchs, Hauck & Müller-Hartmann, 2012; Keane, Keane & Blicblau 2013). This finding also supports the evidence that active learning encourages critical thinking, encourages meaningful or intellectual interactions between team members through dialogue and reflection and fosters the development of self-directed learning.

The theme '*capitalising on team dynamics'* indicates that the SGDV project was a peer-based group work that facilitated discussions, interactions, negotiation, and the ability of the students to work collectively as part of a team to build knowledge and apply it to real-world problems. The integrative theme *'capitalising on team dynamics'* includes ideas such as collaborative teamwork, positive interdependence and collectively constructing knowledge. The focus group discussions revealed that students from all three groups shared common goals and believed that if they worked together, they would be able to learn from each other and produce quality videos. During the classroom observations, the current researcher observed that all members of the various groups made visible contributions. This finding points to the existence of group dynamic patterns during the video creation process. Data from the interviews and observations also indicate that there was true collaboration and there was a sense of community within the groups, as the students had developed and built relationships with peers in their group and negotiated meaning during the video creation process. Therefore, one of the conclusions of this study is that SGDV supports student-centred learning, which in turn encourages teamwork and co-operative learning.

The students adopted a strategic approach to group work by dividing the tasks amongst the group members. Every team member contributed to the development of the film by writing the script, filming and editing of the video. This promoted team work and collaboration between the group members. According to the students' interview responses, their engagement with the video related tasks was shaped by their individual perspectives as well as that of their peers. Since learning is

distributed across different group members who assume diverse roles and use different technologies this finding emphasises the distributed nature of learner engagement.

The students built a team and every member had an impact on the dynamics of the group. They negotiated their roles within the group and considered it very important to take responsibilities for achieving outcomes. Although the students appeared to have not assigned a group leader, interview responses and observations indicate that students worked cohesively as a team. They were able to better organise themselves and assess their strengths. There was effective communication between students in the group and their common goal was to achieve better outcomes. This research study concurs with Ryan (2013) who claimed that students who produce videos and are involved in in-class discussions with peers enjoy collaborating with others, and deeply appreciate their role, and responsibilities.

The students had a positive mind-set and shared their experiences of group work during the interviews and focus group discussions. Although some team members had reservations about their ability to work as part of a group they managed group interactions effectively and ensured that the atmosphere was positive. They shared a common understanding of what was expected of them and understood that it was to the benefit of the whole group. There were active interpersonal relationships throughout the video making process. Group members were found to be more enthusiastic because interaction and collaboration are essential for engaging learners in SGDV activities.

Collaboration also implies that students who take part in real world projects such as SGDV must have the ability to negotiate. From the classroom observations it was evident that students negotiated with team members and lecturers. The students in this study listened to their lecturers and team members, showed patience, shared ideas and when there were disagreements they discussed and built consensus through group decision-making process. Achieving consensus requires some negotiating and as part of a team, the students were committed to a common purpose: that of producing the video. They achieved this by listening to a diversity of ideas, agreeing

or disagreeing to suggestions and criticisms, and resolved issues. This is in line with Vygotsky's (1978) supposition that negotiation and construction are necessary for collaborative knowledge building.

Students reported that they maintained a productive collaborative environment within the group, by ensuring equal contribution among members and setting clear common goals. The dynamic interactions that developed amongst the students triggered certain mechanisms that contributed to learning. This suggests active participation played a key role in interaction during the learning process. Literature shows that such interactions refer to engagement and involves communication, teamwork and social construction of knowledge (Downes, 2007; Henderson et al., 2010; Ferguson & Chow, 2015). There was positive interdependence or cooperation as students perceived that they were able to reach their goals as all members of the team contributed to achieve their goals. Literature reveals that positive interdependence tends to promote interaction (Johnson & Johnson, 2014). This finding is consistent with the claims of DeBarger et al., (2010) who propose that collaborative learning supported by technology and instructors can improve interaction in classrooms, and can facilitate the sharing and distribution of knowledge within a learning community. The interviews as well as focus groups show students mutually helped each other or provided assistance to other students. In other words, SGDV seemed to have revolutionised how student groups cooperated, interacted, worked and learnt together. The learning environment created by the SGDV allowed the students to capitalise on the skills, strengths and talents of their team mates. There was the realisation that group members were co-dependent for the success of the SGDV project and that they would not be able to complete the project individually. By being aware of their co-dependency, students negotiated and distributed tasks in order to ensure that the project was a multifaceted concerted effort.

From the focus group discussions it was apparent that students, on the whole met the challenge of learning new skills by interacting with peers. The direct interactions between students may have promoted active learning and improved team-based skills. Through a cooperative learning

approach the students divided their teams, learnt from others, and at the same time contributed collectively for producing their videos. These findings uphold the results of previous studies that when students collaborate with each other and produce films there is the opportunity for learning more about the various aspects of filmmaking (Carney & Foss, 2008). Students were able to make videos effectively as there was accountability and the tasks were more student-centred. Research shows that in student-centred learning environments learners collaborate with their lecturers and peers, either in groups or individually to explore and actively seek knowledge rather than remain as passive recipients of knowledge (Tyabaeva et al., 2015; O'Toole, 2015). When collaborative technologies such as SGDV are used to design an instructional activity it also involves interaction between students, peers and teachers (Sullivan et al., 2015). The literature also reveals that collaboration and participation during digital video generation presents an opportunity for knowledge-creation in a unique way (Hakkarainen et al., 2013). In other words knowledge is shared by all stakeholders with a variety of socio-cultural perspectives in the learning community. This involves complex interaction within the members of the community and also maintaining dynamic relations with the technology and their social practices (Hakkarainen et al., 2013). This appears to be the case with the students who created the videos.

One of the interesting findings of the study was that the students, who took part in focus groups, experienced a cycle of engagement which included elements such as motivation, support for autonomous learning, confidence, increased competence to engage and create the video through constructive interactions, and a sense of relatedness (or social interaction and connectedness between students, as well as between lecturers and students). It can be assumed that this cycle supports improved student achievement and that the lecturers had played a significant role in ensuring that this cycle of engagement and instruction was provided to all students.

Overall, the findings of the interviews, focus groups and observations suggest that students had acquired key skills in producing videos creatively in an authentic learning environment. In other words, they were able to make a successful transition from passive consumers of knowledge

towards creative producers or co-producers of content (Redecker, 2009; O'Donoghue, 2014). The active learning approaches involved cooperative learning, promoted effective team work, presented the students with real-world, open-ended problems to solve, question the their thought process, reflect on their work, as well as debate and discus problems. To sum up, the results support the evidence that the use of active learning strategies stimulate critical thinking skills, foster reflection, improve student motivation to learn independently and generate a cycle of engagement (Van Amburgh, Devlin, Kirwin & Qualters, 2007*;* Beaubouef, Zhang, Alkadi & Yang, 2011; Evans, Muijs & Tomlinson, 2015).

7.3.3 Final Theme 3: Authentic Approaches

Another outcome of the study was that the SGDV afforded authentic learning or real life learning environments in which students were encouraged to create tangible, useful videos which they could share with team members or their learning community. The themes that helped created the final theme 'authentic approaches' were 'authentic approaches', 'intersubjectivity in communication', and 'facilitator'. Findings indicate that the motivational challenge was provided by the lecturers so that students could interact with other group members and successfully produce the videos.

The infusion of video making into the instructional television module allowed seamless learning in an authentic learning environment. Producing and filming their own video allowed the students to establish a link between what they were learning in the classroom and with the world outside of the education setting. Students had gained from the active learning experiences and as previous studies claim, the learners were able to use the skills and the practical experience to solve unforeseen problems (Beaubouef et al., 2011). The exercise not only facilitated knowledge construction but promoted interaction and communication (Herrington & Kervin, 2007). This result also supports previous assumptions that SGDV produce authentic learning opportunities through collaboration and social interaction (Kearney, 2004; Kearney & Schuck, 2006; Ryan, 2013). The authenticity of the learning experience was heightened when the students created the videos after

sharing ideas through dialogue, showing their videos to peers, obtaining constructive feedback and making changes again (Wegerif, 2015). They also made self-assessments which enabled them to become independent and self-directed learners (Evans, Muijs & Tomlinson, 2015). Literature shows that authentic learning is related to authentic assessment (Woo et al., 2007; Gikandi et al., 2011).

The fact that students were actively involved in the SGDV project with the aim of independently constructing knowledge suggests that the lecturers valued authentic approaches towards learning and instruction. This was evident in the way the lecturers had created learning environments in which they used guided interactions that allowed students to reflect on the errors they made when creating the video and to change their conceptions through communication. This was an idea that was contributed by Vygotsky. Constructivist learning theories posit that learners take the initiative to construct knowledge by taking control of their learning, or through self-regulation (Attwell & Hughes, 2010; Evans, Muijs & Tomlinson, 2015).

The students in this study appeared to view SGDV as an authentic learning activity from the constructivist perspective of education. The constructivist classroom allowed the students to form groups become actively involved in authentic learning, constructing knowledge through interactions; a view that is consistent with an extensive body of literature (for example Li & Ngan, 2009; Hui & Koplin, 2011; Hubbard, 2012). Unlike traditional classrooms, the constructivist classroom permitted the students to become active creators of knowledge. They acquired the required skills through inquiry based learning and collaboration. Their involvement in the learning process was deliberate.

An important part of a constructivist-oriented curriculum was the negotiation of meaning. Students reported that they compared and resolved problems and issues between what they knew and what the new experience implied. This suggests that the learning process was reliant upon communication, which is a pre-requisite for exchanging ideas and understanding the nuances of editing and photography. Students' questionnaire data demonstrates that during the digital video creation process, students deeply engaged in finding ways to creatively communicate powerful

ideas or stories through the visual medium. The data also suggests that students frequently engaged in group discussions. The quantitative data supports qualitative data and corroborates the results of previous studies that students used the videos for communication, for observation and analysis and as a metacognition tool (Schuck & Kearney, 2006a; Hurst, 2014). The literature suggests that SGDV is an established medium of communication and self-expression (Spires et al., 2012), which explains why the students had created, shaped and manipulated the technologies to their advantage.

The students expressed during the interviews that their lecturers had taught them the importance of communication, which they realised was key for knowledge creation in complex learning environments. The students acquired the knowledge when creating the video by participating and collaborating but mostly through communication or exchanging individual knowing for group knowing. This suggests that intersubjectivity may have played a role in the communication. Intersubjectivity, or shared understanding of the learning activity, is a necessary condition of effective collaborative communication (Soslau, 2015). The students established this shared understanding before providing suggestions for improvement to the group.

It was evident from the responses to questionnaire items that the students considered the SGDV to be an instructional tool that allowed knowledge construction. The perception of the students was that the integration of video making into a curriculum not only supported and extended learning but also enhanced curriculum outcomes (Kearney & Schuck, 2004). One of the key findings of the study was that the learners realised they had learned subject-specific skills and attributes such as *'using new software specialised in the production of Toy Story',* '*develop professional knowledge'* and that it was "easy and fun" while working as a team. This indicates that the coming together of technology and pedagogy can create rich learning experiences.

During the analysis of the interview and focus group discussion data, one sub-theme which emerged prominently was 'facilitator'. The students reported that the lecturers played an important dynamic role as that of a facilitator or enabler who provided timely and constructive

feedback. Students stated that the lecturers keenly monitored the activities of the groups and provided comments and suggestions which motivated the learners. By obtaining feedback from peers or lecturers, students were able to engage with the SGDV tasks and were able to able to contribute something new to the video making process. There was the realisation among students that the immediacy of the feedback or criticism they received had enhanced their engagement with the SGDV project, helped them refine their own understanding of the use of technologies for creating videos, and also complete their individual as well as group tasks. This finding concurs with results of earlier studies that found that instructor feedback is a key element when making videos (Schuck & Kearney, 2006b; Kearney, 2011; Ryan, 2013).

In the constructivist classroom, the lecturer's role is to prompt and facilitate discussion. Interview responses show that the lecturer was present but discreetly initiated and maintained student engagement. This suggests that the learning was student-oriented which was promoted through the use of SGDV. However, there was no attempt to replace traditional teaching and learning practices but complement and extend them beyond the classroom. Using the SGDV was in this sense an extension of the students' learning environment yet the lecturer was still there as a facilitator – monitoring student engagement and providing feedback to students – and many students appreciated this. According to the students, the lecturers facilitated the learning process and guided them.

It is evident from the classroom observations that the lecturer showed exemplar videos and engaged students in discussions, which is one of the underlying principles of the DiAL-e framework Literature suggests that this is a useful means of clarifying implicit knowledge and guiding students (Hendry et al., 2012; To & Carless, 2015). The use of exemplars seemed to have evoked deep understanding of the tasks. This is an ideal example of authentic learning in classrooms where simple examples from real world practice act as illustrations of a concept being taught. It motivated the students to learn by breaking up the exemplars, analysing them and selecting relevant information which was used for finally creating the videos. The authentic learning environment

allowed the students to reflect upon the exemplars, their previous knowledge, and experiment to produce the solution. Although the lecturers were the key element in the knowledge construction and learning process, including assessment, they were not the main source of knowledge. However, lecturers engaged the learners to improve learning by providing an authentic learning environment.

7.3.4 Final Theme 4: Overcoming Challenges

All the themes discussed earlier are related to the benefits and affordances of technologies associated with SGDV which had created an integrated learning environment. According to students, the SGDV was an interesting experience but they also had to overcome challenges and restore cognitive equilibrium.

The knowledge that the students gained from the project enabled them to complement the theoretical concepts of instructional video that was taught to them earlier by the lecturer. However, students were concerned that they were taught too much theory but the integration of SGDV gave them some opportunity for acquiring practical knowledge. Literature demonstrates that students need practical knowledge and experiences that they can transfer to other real-life setting and therefore that it is crucial to cultivate and use professional knowledge as well as improve their competence (Lally & Sclatter, 2013). Although students acknowledged that knowledge can be acquired by reading text books or listening to lectures, they were of the view that they could construct further knowledge upon already understood concepts if they collaborated and learnt from personal experience. In other words, the students wanted the lecturers to give more importance to applying theories in real classroom settings. This thesis argues that there should be a balance of theory and practice if students are to acquire knowledge. According to Heng (2005) a good balance of theory and practice is complex. On the contrary, such a balance of theory and practice is required to not only enable students to better understand the abstract concepts but also gain the capability of turning those ideas into concrete issues with practical solutions.

The students involved in creating the videos encountered many barriers in their efforts to mature and expand their project. Initially they had inadequate skills and experience in creating the videos. The creation of digital videos by students requires a plethora of project management skills such as planning, organising, structuring their content based message. Students in this study were able to plan, monitor, manage and reflect on their work. This finding is consistent with the self-regulated learning model advocated by Pintrich and colleagues (Pintrich, 2004; Pintrich & Zusho, 2002). However, SGDV was difficult for the novice students and interview responses suggest that they found the use of cameras and editing software complex. Literature demonstrates that students who find it difficult using video equipment and editing software are more likely to feel discouraged (Greene & Crespi, 2012). Conversely, the students in this study seemed to have overcome this issue by collaborating with peers and obtaining feedback from lecturers.

Although the SGDV seemed to have supported authentic learning environments, the challenge facing students was assessing the work of team members and providing or receiving feedback. Research literature supports this finding and indicates that students experience difficulty when judging the ability of their peers to provide good quality feedback in authentic learning environments (Herrington et al., 2014). In order to overcome this challenge, they appeared to have carefully considered the learning objectives and purpose for using the technologies associated with creating videos. The students had to capitalise on the dynamics of the team they were associated with, and take into account the skill level of group members and their previous experience in using cameras, editing software, etc. In the process, the assessments and feedback from students and their lecturers had empowered students to become self-regulated learners.

Summary

Overall, the key findings presented above in response to the first research question related to how students engage in their learning when incorporating SGDV, suggest that SGDV promoted active learning including the use of guided critical reflection and real-world student engagement (Evans, Muijs & Tomlinson, 2015). The authentic learning environments promoted by the SGDVs and

facilitated by the lecturers had engaged the learners in knowledge construction through collaborative activities and through reflection. Collaboration, negotiation and social interaction had allowed the students to reach mutual understanding through shared values and goals or find common ground. To sum up, the SGDVs enabled students to form learning relationships with peers, collaborate, work autonomously, and feel they are capable of accomplishing their own goals.

7.4 Findings from the Lecturers' Data

The research question focuses on how lecturers integrate and use the SGDV to engage learners in the learning process:

'*How do lecturers use SGDV to support students' engagement in their own learning*?'

After analysing the data from the interviews and classroom observations, the central themes that emerged to help answer the second research question were *'guided team and individualised feedback'*, *'dynamic, interactive learning environments'*, and *'learner-centred teaching strategies'.* These themes helped identify how the lecturers were promoting student engagement.

7.4.1 Final Theme 1: Guided Team and Individualised Feedback

The research shows that the provision of effective feedback is a prerequisite of potential learning, especially in creative classrooms projects where students seek immediate and consistent reaction or response from the lecturer (Schuck & Kearney, 2006b; Carney & Foss, 2008; Kearney, 2011; Hubbard, 2012). The lecturers' interview responses suggest that they wanted to provide timely feedback so that students could review their video and edit it in case they make mistakes (Kearney, 2011). Results of this thesis suggest that lecturers, in order to guide the teams, involved in producing videos the lecturers provided individualised or collective timely feedback. They used WhatsApp as a communication platform to interact with student groups, coordinate the activities of the students, and for feedback immediacy. The use of this instant messaging app provided the lecturers with the opportunity to use and share multimedia, to express personal opinions about SGDV and to create a positive climate for learning. Literature suggests that educators who use technology can engage students with feedback, and constructive criticism allows students to make changes to their video (Kearney, 2011; Hepplestone et al., 2011; Hubbard, 2012; Furrer et al., 2014). In the current study, the lecturers provided generic feedback to the groups and addressed common issues facing students when creating the videos. The mode of communication adopted by the

lecturers supported real-time individualised feedback which was not structured and easy to interpret. The lecturers viewed this mode of communication from a co-constructivist perspective.

7.4.2 Final Theme 2: Dynamic and Interactive Learning Environments

It was evident from the interviews and classroom observations that the lecturers wanted to create an ideal learning environment in which students can generate videos. They had realised that a traditional teaching model would not be suitable for fostering student engagement. They wanted to position students as active learners who would create content by relating it with course concepts, ask themselves relevant questions, look for answers, engage in group discussions and interact with the lecturers. Interview data suggests that the lecturers had provided active learning opportunities so that students could learn by doing and become self-directed learners. In order to create dynamic authentic learning classroom environments, the lecturers formed groups and used interactive learning activities. Lecturers were dynamically responsive to the needs of students but exercised very little control over them. This result is consistent with literature (Kirkwood & Price, 2013) which shows that in authentic, dynamic learning environments, students can make videos by learning through experience or learning by doing.

Classroom observations also revealed that the lecturers had built a sustained culture of innovation and facilitated the development of learning practices that appealed to students. The lecturers appeared to have realised that SGDVs are a powerful tool that can draw students in and connect them to content in innovative ways. In order to nurture this culture of innovation lecturers promoted critical questioning and encouraged students to analyse the videos created by them or their group. The group discussions that followed allowed the students to make changes to the videos.

7.4.3 Final Theme 3: Learner-centred Teaching Strategies

Traditional teaching methods involve lectures and rote instruction, and these approaches do not help students acquire deep understanding of a subject or activity, the skills to solve problems, to think critically and communicate their thoughts logically. This necessitated an instructional shift and the need for creating student-centred learning environments.

As students are more exposed to technology and have higher expectations of teaching approaches (Ellison et al., 2009; Littlejohn, Margaryan & Vojt, 2010), the lecturers encouraged student-centred teaching strategies. This result directly supports the claims of Kirkwood and Price (2013) that teacher-centred methods are giving way to student-centred teaching in higher education institutions, as there was the realisation among the lecturers interviewed that teaching does not constitute delivering content, but involves designing and enabling learning experiences (Lattuca, 2006). The approaches adopted by the lecturers included linking the videos created by the students with what they had learnt in the classroom, and strategies such as brainstorming, group discussions and debates. Lecturers assumed the role of facilitators and allowed the students to actively participate in the video creation process. They guided team members by scaffolding student reflection. SGDV used as a tool of reflection can help support students' reflection on their own learning. The lecturers therefore helped the students to reflect on inconsistencies and to develop the practice of relating and creating meaning from their experiences (Pritchard & Woollard, 2010). Such reflective practices increased the students' understanding of critical aspects of video-making.

The classroom observations supported the theme '*empowered students'* as students had developed the capability to create videos on their own. The lecturers empowered the students by listening and supporting their active role in creating the videos. This finding is strongly supported by previous studies, which claim that students feel empowered and autonomous, if they are free to experiment (Kearney & Schuck, 2006; Greene & Crespi, 2012; Ryan, 2013).

The lecturers also used other strategies to support and enhance student engagement. These included encouraging high levels of student participation, asking students to take part in

discussions, and creating opportunities for students to develop critical thinking and problem-solving skills. By allowing the students to use SGDV and assigning tasks that could provide stimulation, the lecturers had enhanced student engagement. As the students were interested, fascinated, or even passionate about SGDV, the lecturers had used these interests as natural motivators to further increase student engagement. The lecturers also used other methods of increasing engagement, such as connecting what they taught to real-life situations, giving students choices and the opportunity to immerse themselves in tasks. They achieved this by teaching students self-monitoring skills and improving the student-lecturer relationship.

Summary

Overall, the findings indicate that the lecturers had created an exciting, active and dynamic learning environment, which not only supported reflection, as well as creative and interactive learning, but also emphasised individual and group work. By applying SGDV and enabling real-world, hands-on experiential learning, the lecturers who were interviewed and observed, had made changes to existing pedagogy, together with curriculum and assessment strategies, in order to increase student engagement. The new pedagogical approaches included making changes to the educational curriculum (course or module), and introducing authentic classroom learning activities, such as interaction, exploration and the use of technology. By deciding to educate students differently and by including authentic tasks (such as SGDV), the lecturers wanted to motivate and engage the students to learn. Embedding video-making tasks into the curriculum allowed them to engage their students. It also enabled the students to learn through a process of reflection, while obtaining meaningful feedback from the lecturers. In addition, the inclusion of attractive and challenging activities (such as the use of SGDVs) helped the students to use their imagination. As the lecturers had employed active learning strategies, they appeared to have allocated a greater proportion of time promoting deep learning, but lesser time supporting superficial learning.

The lecturers also helped the students develop critical thinking skills, enabling the learners to independently solve problems, and take responsibility for their learning. By providing high quality

feedback and ensuring that it was applied by the learners to their practice, the lecturers facilitated and promoted learning, besides empowering them. The lecturers were innovative in their thinking about how to improve educational practices and so they were able to better prepare their students for the future, for example, in the capacity of director, cinematographer, editor or producer.

7.5 Findings from the Quantitative Data

The findings related to the students' self-reported beliefs about the use of SGDV as a tool of engagement in learning activities are presented here.

7.5.1 Students' Beliefs

The data collected from the survey showed that the students were able to use the technologies in various ways to create videos, especially when they collaborated with other members of the team, for example through personal experience. They appeared to have access to the technologies and were able to select the appropriate tools for creating, sharing and viewing the videos. They used mobile apps to coordinate the video-making activities and communicated with peers and lecturers.

Through self-assessments, or in other words, by monitoring and evaluating their progress, the students reported that they were able reflect upon theory and previous experience, so as to regulate their own learning. Therefore, by monitoring their own progress, the students were able to gain a greater awareness of the subject of Instructional Television through the creation of videos. They not only developed the self-awareness required to set their own learning goals, but also appeared to use their own ideas, believe in their own creative ability, and present their work in different ways.

The questionnaire data suggest that the conditions in which the students created the videos supported their collective process of knowledge construction. The students' responses reveal that SGDV fostered teamwork and collaboration. This finding is congruent with the students' description of collaboration, which was reported in the qualitative phase of this study. The questionnaire data

supplemented the qualitative data, in that the students were engaged in collaborative knowledge-building. They also possessed the knowledge and skills to build on or develop further digital video material created by others. Likewise, they were capable of contributing to the knowledge of others in an informal way and to use the formal structures created by the lecturer. Overall, it could be summarised that it was communication and coordination that helped foster teamwork and collaboration.

Aside from above, the students capitalised on team dynamics and this was a view that they also expressed in the interviews. The constructivist learning strategy adopted by their lecturers had enhanced student engagement in the SGDV project. The SGDV-mediated constructivist learning approach had helped the students develop positive attitudes towards the project, with respect to their learning motivation, understanding, skills and teamworking abilities. The integration of SGDV into a constructivist learning environment had not only allowed the students to learn on the Instructional Television module, but also to experience critical thinking, enhance their creativity and develop their communication skills. What the students had learnt meant even more to them, once they formulated their own ideas, reflected on previous experiences, asked questions and sought answers for themselves. By participating in a constructivist process, they had allowed themselves to participate in decisions about their learning. All this indicates that the way in which the students constructed knowledge in this study was based on a constructivist perspective. It is a finding that complements the results of the observations and the interviews, which emphasise that there was interaction and knowledge creation in dynamic contexts, as students collectively created the videos through real-time actions.

7.5.2 Summary of the Questionnaire Findings

The instruments that were piloted were slightly modified and used to collect data for the main study. The results of the students' questionnaire data show that the SGDV project helped enhance teamwork, as well as learner autonomy. The students' responses suggest that the interactive environments had generated genuine enthusiasm for learning and given them the opportunity to

create videos on their own. The SGDV tasks also seemed to have produced opportunities for authentic learning, self-directed learning, and the potential for deeper learning on the Instructional Television Module. The results also reveal that the students were able to build communities of practice in which knowledgeable learners were able to engage in group discussions. The group tasks allowed the students to become partners in the learning, wherein they worked together and created the videos. The experience therefore fostered student engagement.

7.6 Key Findings

The results from the qualitative data analysis indicate that the lecturers assumed the role of a facilitator to engage the learners. These qualitative findings also helped explain the survey results. The key findings reported in answer to the research questions reflect the most common themes emerging from the data.

7.6.1 Findings Associated with the Students

Adaptability: The students' adaptability is associated with the way in which they engaged in their learning and created the videos. Adaptability is therefore seen as an important component of the learning process (Parsons, Williams, Burrowbridge & Mauk, 2011). This reinforces the conclusion that adaptability is necessary to accommodate creativity and independent, problem-solving thinking, which are essential for creating videos. The literature suggests that adaptability is crucial for optimal student learning because it promotes student engagement (Darling-Hammond & Bransford, 2005).

Active learning: The SGDV enhanced student engagement and perseverance in the learners, even in the face of the challenging task of creating videos and taking the Instructional Television module. The task of creating the videos promoted critical reflection, which allowed the students to use past experiences to direct their learning. SGDV involved group work and therefore, cooperative learning, which promoted student engagement. The students took advantage of the particular skills or abilities of the team members and engaged creatively with the authentic learning task.

Authentic approaches: Peer-based collaborative learning and constructivist pedagogy can encourage student engagement. The Instructional Television course consists of work-based learning, while SGDV, which was aligned with the curriculum, applied constructivist principles to facilitate meaningful student engagement. The activities associated with creating the videos consequently enhanced interaction, bringing about a shift in the teacher-student power relationship. However, the lecturers were in favour of sharing power with the students and so their role was not that of an expert, but rather that of a facilitator.

Overcoming Challenges: Group-based enquiry and hands-on tasks proved challenging for the students, who were faced with difficulties during the video creation process. Nevertheless, the challenges provided them with opportunities to apply concepts and skills in realistic situations, such as storytelling, storyboarding and editing. This finding shows that the challenges did not jeopardise student engagement.

7.6.2 Findings Associated with the Lecturers

Guided team and individualised feedback: The lecturers in this study created a feedback--enriched environment and engaged in dialogue about the SGDV task and as a means of giving feedback. This finding suggests that quality feedback is aligned with student engagement.

Dynamic, interactive learning environments: The lecturers in this study created a dynamic learning environment and integrated SGDV, along with other relevant activities to achieve optimal student engagement. The environment was context-dependent and interactive.

Learner-centred teaching strategies: One of the findings of this study is that student engagement was strongly influenced by the strategies adopted by the lecturers, such as the use of enquiry to accomplish real-life tasks.

Overall, these findings suggest that the use of SGDV by students and its integration into the curriculum by the lecturers had facilitated the students' engagement with their own learning. The findings of this study are consistent with other research that has been disseminated on this topic,

for example: Schuck and Kearney (2004), Greene and Crespi (2012), Kearney (2012), and Halter and Levin (2014).

7.7 The Findings and the Proposed SGDV Model of Learner Engagement

7.7.1 The SGDV Model of Learner Engagement

The proposed SGDV Model (presented in Chapter Four) is founded on several key premises, which are discussed below. After exploring, understanding and explaining the prominent patterns of student engagement in SGDV activities through a predominantly qualitative case study, which involved questionnaires, interviews, observations and focus groups, the main objective was to present these in the form of a holistic framework. As can be seen in the Table below (Table 4), the SGDV Model is a fusion of several theories and interrelated concepts (i.e. social constructivism, situated learning, the DiAL-e framework and TPACK). It was developed abductively and was theoretically informed.

The findings discussed in the following section (Key Findings and the SGDV Model) present specific elements and related factors, which were used to refine the initial framework and address the theoretical gaps identified in the literature. The key premises of the SGDV Model in reference to projects that incorporate active learning are:

Premise 1: Student engagement is a multi-dimensional concept. It is reflective and thus allows learners to focus on their own thoughts and to regulate their actions, interactions and approaches to learning by expressing feelings and emotions.

Premise 2: The elements that constitute student engagement are increased motivation, due to scaffolding, lecturers' involvement with the creation of active and dynamic learning environments; group work; relevant, authentic and interesting tasks, and a sense of control over one's learning. These elements influence the extent to which the students may have engaged with the SGDV tasks.

Table 4: Linking the research questions, key findings and elements of the SGDV framework

Research questions	Key Findings	Elements of SGDV framework
How do lecturers use student-generated digital video to support students' engagement in their own learning?	Lecturers as facilitators were using authentic approaches, active learning and learner-centred teaching strategies; guiding student groups and providing feedback; creating dynamic, interactive learning environments	(a)Lecturers harnessed technology, pedagogy & content (TPACK); encouraged discussions; used teaching methods rooted in socio-constructivist theory and DiAL-e framework: scaffold and encourage exploration of ideas by using stimulus/modelling or presenting exemplar digital videos; used reflection prompts; enabled conceptualisation of new ideas and creating videos (b) Lecturers were using elements of TPACK in their planning & instruction; apply ZPD concepts (social constructivist); providing scaffolds and advise on storyboard/script writing (c) Lecturers rotated students' roles/responsibilities, used alternate sources or approaches to solve problems (situated learning), gave control to the learner (social constructivist) and considered synchronous dialogue (social constructivist learning tool) (d) As critical listeners, lecturers viewed videos and provide feedback; scaffolds student reflection; mediates class discussions; confirms new concepts through presentation & peer assessment;
How do students engage in their learning when incorporating student-generated digital video in classroom?	Using past experiences; Overcoming challenges (such as lack of skills and need for acquiring practical knowledge and experiences); Adaptability; Capitalising on team dynamics; Through collaboration, discussions and negotiations; Through building creative confidence; Through reflection and critical thinking.	(a) Carrying out research, using discussions, making decisions and creating a narrative description of the project (treatment) (DiAL-e) (b)Familiarisation with roles & equipment, assigning roles and responsibilities, and creating storyboard (c)Filming, audio-recording, editing, facing and overcoming challenges through problem-solving (situated learning) (d)Presentation, viewing & sharing perspectives through collective activities, discussion, reflection and peer assessment (communities of learning; active learning)
What are students' self-reported beliefs about student-generated digital videos as a tool for engagement in learning activities?	Students believed in reflecting upon theories, past experiences and regulating their own learning; collective knowledge construction; self-assessments; coordinating video making activity and communicating with peers and lecturers	(a) communities of practice/learning (b) social constructivist approaches

Premise 3: Student engagement is the result of a process of social interaction and the sharing of ideas. It is embedded in social relationships and the situational context within which it takes place. Therefore, student engagement occurs not only on an individual level, but also across groups. The findings seem to suggest that collaboration and group dynamics influence the way in which students engage in SGDV tasks. In the present study, collectively engaged in creating videos. SGDV

involves dynamic, powerful and complex interactions (i.e. amongst students, amongst groups, between students and the content, and between students and lecturers), which unquestionably affected the degree and nature of the student engagement.

Premise 4: Student engagement is the result of constructive alignment between pedagogical and instructional strategies, assessment strategies, and strategies for observing and dealing with group interaction. In the context of SGDV, it is vital that lecturers engage students through the designing of authentic and purposeful tasks.

Premise 5: Student engagement is a fundamental precondition to learning and plays a mediating role in the learning process. Student engagement can be promoted through active learning, authentic assessment and the distribution of knowledge. Students who have completed their videos celebrate learning by reflecting on and articulating what they have learnt, how they have learnt it, the challenges they have faced and how they resolved the problems.

Collectively, the aim of the SGDV Model is to conceptualise the process of student engagement, specifically in SGDV activities.

7.7.2 Key Findings and the SGDV Model

In order to capture the full complexity of student engagement in SGDV projects and attend to the key research questions pursued in this thesis, the findings are explored through the theoretical lenses of social constructivism, situated learning, and the DiAL-e framework. The findings and conclusions were then revisited and explained in the context of the theoretical framework and supporting theories, where were presented in the Literature Review. This enabled a deeper level of analysis.

Overall, the general research findings and conclusion of this study are consistent with the overarching theories presented in the theoretical framework. Here, the researcher found that SGDV increased student engagement and motivation, thereby enhancing students' learning experiences.

7.7.3 Elements Associated with the DiAL-e Framework

The learning design was intended to render the Instructional Television course more interesting for students. The lecturers used representations, video-cases, exemplars and real-world examples and analogies, so that the students could reflect on them and thus solve problems associated with photography, editing and producing a video. It provided stimulus and support to the students. The findings suggest that the students were consequently motivated to engage with their tasks by the lecturer. From the student interviews and classroom observations, it was evident that continuous feedback from the lecturers and fellow team members had the desired effect of improving learner engagement. The narrative feedback provided explanation as to what the students had to do. In the student-centred environment the use of narrative feedback encouraged students to make changes based on the feedback and to resubmit the video. Therefore, this study claims that the increased narrative quality of lecturer feedback is associated with greater student engagement.

As creating videos was part of the project, the students had the opportunity to apply what they had created to their lives, both personally and professionally. **S**tudents as authors created the videos through the intelligent use of technology, as well as through hands-on problem-solving. The experience that they gained during the project could help them to produce videos as a profession. In other words, the SGDV project demonstrated potential relevance to the students' professional lives.

The findings indicate that lecturers and students played different roles which stimulate empathy. While the students wanted to understand the perspectives of other group members, the lecturers wanted to fully understand the feelings and the difficulties of students and support them. The students understood the complex emotions of team members, gained a diverse perspective, and leveraged the relationships for collaboration. Students had the opportunity to review the video they created from the perspective of their peers so that they gain a different perspective of what they had created. The lecturers who had created the dynamic learning environment had encouraged empathy in the classroom.

The findings also suggest that the lecturers had given the students the opportunity to undertake the experiment by working in groups to construct knowledge. While the lecturers had established a community of practice focussed on student learning, the students acknowledged that teamwork was critical in creating the videos and helped increase learning through interaction with peers. However, in order to engage students, the lecturers had given the learners the opportunity to think, make contributions and appreciate the contributions of others. All these occurred in a collaborative learning environment where the lecturers facilitated, modelled, and coached the students. Students assumed the role of collaborators and active participators in the collaborative classroom. This suggests that there was a community of practice in the context of the SGDV project as students with different experiences and reflections shared their ideas. Although the lecturers promoted self-regulated learning which emphasises autonomy and control over learning, they monitored the students, provided timely feedback and allowed the students to make self-assessments.

The students were also allowed to consult with other students about the conceptualisation of the SGDV project and for solving problems which suggests that they are part of a constructivist learning environment. It was also evident from students' responses that SGDV encourages inquiry-based learning which empowers and engages learners by providing them the opportunity to use the tools to solve problems. They were able to connect the knowledge acquired from theory and research, and learn the task of creating the video through active engagement.

7.7.4 Elements of Social Constructivism

When students are engaged in a social activity such as SGDV, learning is associated interactions with lecturers and peers. Findings indicate that students socially constructed meaning by also engaging their mind. In other words, students learnt to create videos by engaging in reflective activities. Lecturers provided opportunities for students to reflect, welcoming inconsistencies, and encouraged research.

Interaction was an overarching integrative theme for understanding and enhancing student engagement in SGDV activities. Lecturer-student interaction during the pre-production, production and post-production stages allowed students to share information, learn from others, and collaborate. This approach is associated with social constructivism which emphasises social interaction is the key element of collaborative learning. Interactions in the zone of proximal development allowed students to be part of teams and achieve learning outcomes through modelling, simulation and duplication.

Students who had participated in the SGDV activities with their own understandings were able to find a shared meaning to succeed in creating the video. This shared understanding, called intersubjectivity, is also a theme which emerged from the interview data. Students negotiated and discussed their ideas to bridge the gap between what they knew and what was new or unknown (Dennen & Burner, 2007). This shows that student engagement presupposes interaction. The role of the teacher is to value student reflection and encourage peer interaction. Findings indicate that lecturers provided support to their students as mentors, scaffolded reflection and facilitated the possibility of sharing information.

7.8 Summary

The themes and patterns discussed in this chapter contribute to an understanding of how student engagement was enhanced when learners were involved in creating the videos.

Student Data:

- Adaptability
- Active learning
- Authentic approaches
- Overcoming challenges

Lecturer Data:

- Culture of innovation
- Active learning
- Empowered students

The findings have confirmed that student engagement is the product of motivation and active learning. From a theoretical point of view, the results of the study have demonstrated how collaboration, group dynamics and interpersonal relationships between students as well as

between students and lecturers can enable student engagement. The findings seem to suggest that student engagement rests upon student motivation and their willingness to cognitively and emotionally engage in active and authentic learning activities. Results also indicate that SGDV aligns itself with the social-constructivist paradigm which argues that students acquire knowledge through discussion, information sharing, and negotiating meanings with others. Students were able to actively construct knowledge which in itself was the primary aim of SGDV. The social construction of knowledge referred to in this thesis focuses on the social context within which the SGDV were actively created as an ongoing dynamic process by different student groups.

The chapter also presented a SGDV learning design which is a conceptual model of student engagement. The model is an empirically-grounded, theoretically-informed conceptualisation of student engagement in SGDV environments in the context of higher education in Kuwait. The model and the overall findings suggest that student engagement is a complex and multi-dimensional concept.

Chapter 8: Conclusion and Recommendations

8.1 Introduction

The recent emergence of user-friendly technologies, such as mobile phones, digital cameras and editing software, has made SGDV an accessible learning tool that can enhance students' educational experience. The main aim of this research was to examine the use of SGDV, a user-friendly technology in higher education classrooms, as a means of supporting and enhancing student engagement. The intention of this was to enable better understanding of the affordances and challenges of this emerging pedagogy. The main findings were discussed in Chapter Seven and these relate to previously published literature in the interdisciplinary field of student engagement and SGDV, especially in reference to the key research questions. As regards the nature of student engagement, the results echo what has been previously argued in the literature.

The potential for using digital video in higher education builds upon experience described in the extensive literature on SGDV (Kearney & Schuck, 2006; Greene & Crespi, 2012; Kearney, 2012; Halter & Levin, 2014), which suggests that the flexibility and multi-functionality of these technologies contribute to a powerful authentic learning environment. The literature reviewed for this thesis also suggests that SGDV supports initiative and self-direction among students (Kearney, 2011), while open-ended activities, such as filming and editing, support concurrent and spontaneous collaborative reflection (Schuck & Kearney, 2004; Kearney, 2011).

When reflecting on the doctoral journey and identifying significant experiences within it, the researcher admits that this was a complex research project to conduct, but it was also a gradual and primarily enlightening learning process. It presented a unique research opportunity to investigate how lecturers can integrate SGDV to support student engagement. The research journey was therefore an evolutionary process, which involved continuous interaction between the research questions, data and theory. The researcher was committed to producing evidence-based, theoretically-informed research conclusions, which would lead to a better understanding of student

engagement in SGDV tasks and the strategies used by lecturers in active learning environments. This was achieved by adopting a pragmatic worldview, applying abductive reasoning and adopting a qualitative case study approach to investigate the ways in which higher education students in Kuwait engage in learning when creating and using digital videos, as well as the way in which lecturers use SGDV to support students' engagement in their own learning.

This chapter is comprised of sections covering the key findings, along with implications for theory and practice. Further sections look at the contribution made by the study, while at the same time acknowledging its limitations. Finally, recommendations are made for future research and the researcher ends with some concluding remarks.

8.2 The Research Questions and Key Findings

This section discusses how the findings relate to the research questions and provides an overview of the study's limitations, with implications for further research in this area. The results of the questionnaire, interviews, focus groups and observation data indicate that the lecturers integrated SGDV to offer their students an assessment practicum experience, as part of the Instructional Television course. It is also indicated that they used instructional strategies characterised by active learning to facilitate student engagement. The research questions formulated for this study and the associated findings were:

RQ1: How do students engage in their learning when incorporating student-generated digital video (SGDV) in the classroom?

The SGDV activities afforded rich learning environments, which in turn fostered adaptability. Therefore, the study confirms that adaptability allowed the students to constantly adjust to changing demands by using the technologies to solve complex problems with openness and flexibility. While the SGDV project gave the students confidence to become more creative through hands-on activities (creative confidence), the lecturers also created a learning environment in which students could adjust their behaviour and beliefs to the situation (enhanced adaptability). This was

one of the unique findings of this study. The students were able to solve problems, in spite of the difficulties they faced during the project; they accepted reality and were not overwhelmed by the situation they found themselves in.

Video creation involves equipment and software that can be manipulated. The present findings show that the students made use of these primary sources to construct learning through interaction and building on what they already knew. Nevertheless, as the results suggest, the integration of digital videos provided learning opportunities for all members of the various student groups participating in the project. However, the students did not passively rely on the lecturers to provide the relevant information. This was observed when team members supported each other with the filming of the videos, in the use of software, and through peer review. This active teaching approach was in stark contrast to the traditional (or passive) approach prevalent in Kuwait. It was a learning experience that caused the students to engage in peer-discussion, reflect on theory and past experiences, develop critical thinking skills, and identify and resolve problems. In the process, the motivated group members acquired a deeper understanding of the nuances of film-making.

SGDV enhanced student engagement by motivating students to become autonomous or self-regulated learners; a finding which is also supported by previous studies (for example, Hubbard, 2012). One of the recurring themes related to the teams' ability to recognise and capitalise upon each member's individual strengths. The authentic classroom environment created by SGDV was intense and supportive and the students not only revealed their strengths and interests to each other, but also assessed each other's weaknesses, and shared and solved problems. In this informal cooperative learning environment, the students created the videos through peer-learning and constructed their own understanding through dialogue. Moreover, the open and discursive peer-group situations provided opportunities for the students to receive feedback, which was both meaningful to them and immediately actionable (Jordan, 2012).

With regard to the lecturers, the students reported that they provided guidance, feedback and support. This suggests that the lecturers created a constructivist learning environment and played

the role of a negotiator or facilitator. Therefore, the findings confirm that lecturers in Kuwait have developed the pedagogical ability to deal with such an environment. The constructivist classroom activities created opportunities for authentic learning and student creativity, unlike traditional teaching and learning practices. While allowing the students to work in groups, the lecturers encouraged dialogue and helped the learners construct their own knowledge. This social constructivist approach gave the students more freedom to work together in a way that suited their cultural values. This finding is consistent with the existing literature (Pritchard & Woollard, 2010; Mensah, 2015) and is significant in the context of Kuwait, where rote learning and memorisation are still in vogue.

RQ2: How do lecturers use student-generated digital video (SGDV) to support students' engagement in their own learning?

The findings indicate that the lecturers promoted active and participatory learning experiences, fostered independent learning, and provided many opportunities for active engagement. While the students' interview responses revealed that they understood the complex emotions of fellow team members, the lecturers acknowledged the students' needs. By using reflection as a pedagogical practice, the lecturers encouraged the students to discover new solutions to problems and for the most part, to create their videos independently. The data gleaned from the interviews show that the lecturers fostered student engagement with helpful and timely feedback, so that the students were able to accomplish the rich and complex task of creating the videos. Guided feedback then enabled the students to gauge their own ideas and proposals and to take the necessary steps. This finding suggests that the lecturers created a dynamic learning environment and integrated SGDV, built relationships with the students, and developed self-regulation among their students. This is in line with what has been previously claimed by researchers (for example, Kearney & Schuck, 2006; Hubbard, 2012). These strategies formed part of a larger plan to create student-centred classrooms by shifting the focus of the activity from the lecturers to the learners.

RQ3: What are students' self-reported beliefs about student-generated digital video (SGDV) as a tool for engaging in learning activities?

The results show that the digital video project helped enhance teamwork, as well as demonstrating increased learner autonomy. It is evident that the tasks produced opportunities for authentic and self-directed learning. This thesis confirms that SGDV is a pedagogical approach that can be used within active learning classrooms. Some of the key affordances of SGDV identified in this study through the students' self-reported beliefs are that it fosters collaboration, as well as authentic and situated learning. This active learning approach, which embraces the use of cooperative learning groups (constructivist-based practice), can be adopted through a variety of meaningful learning activities and interaction between participants (or a community of practice) on a video-production project. Overall, the authentic learning experience fostered student engagement. The findings re-emphasise what has been previously argued in the literature, namely that technologies such as SGDV facilitate collaboration and enhance student autonomy (Kearney & Schuck, 2006; Zahn et al., 2010; Soslau, 2015).

To sum up, the findings suggest that the use of SGDV by students and its integration into the curriculum by lecturers facilitates learners' engagement with their own learning, since the results of this study were unequivocally positive. The research discovered that the students were motivated learners and the lecturer's role had ensured the attractiveness of SGDV as a tool that could be integrated into an educational context. The research found that by using SGDV, the students were able to modify their learning environment to create a more personalised space, better suited to their individual learning needs. This was evident from the interviews and during the classroom observations, whereby student engagement behaviours were found to increase significantly when digital video was used for teaching and learning.

Overall, therefore, the findings demonstrate that by integrating SGDV, a rich and active learning environment was created. The elements of student engagement in SGDV activities included relationships between lecturers and students, as well as between students and fellow group

members; active learning; motivation for and interest in learning; autonomy and self-regulated learning; the role of the lecturer in facilitating, empowering and engaging students in learning activities, and the role of the lecturer in enabling students to learn more effectively, and helping them take responsibility for their own learning. The literature reviewed earlier emphasised that student engagement is a multi-dimensional and interrelated construct and the findings of this research reflect this multi-dimensionality.

8.3 Implications for Theory and Practice

This study has a number of significant theoretical and practical implications and also opens up opportunities for further research. Its results could be useful for theoreticians to further develop the conceptual understanding of student engagement, wherever learners are engaged in authentic learning tasks. The present study findings complement the existing literature on student engagement by adding a cultural perspective to theories of student engagement.

This study on the effects of SGDV on student engagement has implications for more widespread application of this technological tool. It could also be employed to foster critical thinking by exposing students to other ways of thinking. Furthermore, lecturers could tailor instruction to build upon students' prior understanding by applying the constructivist approach to their learning. The findings also provide knowledge for policy-makers and practitioners, enabling them to design and implement a task-based curriculum and instructional activities that foster higher levels of student engagement.

Given the findings of this study, some assertions could be made concerning its implications for practice, especially in terms of selecting strategies for integrating SGDV and motivating student learning. From a pedagogical perspective, the findings suggest that it is not the actual integration of SGDV into the curriculum that will automatically engage students, but rather the appropriate choice of learning tasks and learner-centred strategies by the lecturer, coupled with timely feedback and support. Furthermore, lecturers need to design learning activities that include

elements from professional situations and which chart the roles played by students when creating videos. One implication of this study concerns the potential for students' participation in the assessment process, whereby institutions could consider student feedback, when planning educational and institutional policy. This may require re-negotiating and re-establishing the role of the lecturer, the responsibilities of the student, and the nature of the learning tasks. It will also require a review of the curricula and pedagogy to incorporate authentic learning tasks and activities, instructional techniques, and learning experiences. If used creatively, however, SGDV will allow for more interactive, collaborative and authentic learning activities.

8.4 Contribution of the Study

The current study makes several contributions to the literature on SGDV. For example, it demonstrates that the integration of SGDV has the potential to promote an authentic understanding of lecturers' practices and has clear implications for professional development. In an attempt to understand student engagement when involved in creating digital videos in their natural learning contexts (the classroom and outdoor film-making) the study took into consideration the students' and lecturers' perceptions and self-reports, in order to develop a holistic analytical framework for student engagement in SGDV. The SGDV Model results from the multi-dimensional conceptualisation of student engagement, socio-constructivist theoretical elements, the DiAL-e framework, and TPACK. It contributes to theory by illustrating the diversity and complexity of student engagement in SGDV tasks.

The study contributes to the SGDV literature by adopting a multi-method, qualitative case study in a higher education setting in Kuwait. However, these findings could also be applied to other educational settings in the Arab world, especially in the GCC countries. Methodologically, this study also contributes to qualitative case study research by demonstrating how different forms of data can be collected as a means of further reinforcing or refuting findings. A pragmatic approach was adopted, which allowed the researcher to explore students' experiences of engagement in a profound manner. Moreover, by using abduction, this study contributes to the diversity of research

methodologies exploring student engagement when learners are immersed in authentic learning activities. Finally, the findings may contribute to a better understanding of how lecturers can integrate SGDV for the development of instruction and to enhance understanding on a course (in this case, an Instructional Television module).

8.5 Limitations

The data collected from the surveys were limited in scope, due to the size of the sample, which was relatively small (N=48). Moreover, the students who participated in the study were all from a higher education institution in Kuwait and therefore, the findings cannot necessarily be generalised to students from other parts of the world. However, because of the cultural context of the teaching, the participants were likely to be similar to students in other countries in the Arab world, particularly the GCC countries, in terms of demographics, culture and language. Therefore, it may be stated that the findings pertain solely to this sample and students of a similar cultural and educational background. Consequently, there would be much greater potential for generalisation, if this small sample were to be expanded to explore the question (Research Question 3) more thoroughly.

Nevertheless, it needs to be borne in mind that the results of this research have a number of limitations. The unique nature of SGDV is that it involves group work and the co-construction of videos. Therefore, it is not easy to generalise the results of this study to other real-world tasks or pedagogic strategies. Another limitation is was methodological and relates to the use of questionnaires. For instance, some of the themes emerging from interviews were not clearly present in the results of the quantitative data analysis. This limitation may have impacted or influenced the interpretation of the findings. The researcher assumes that this was due to a failure to probe effectively or use follow-up questions as a means of eliciting further elaboration.

In spite of these limitations, the results do offer important insights into the ways in which student engagement can be enhanced if lecturers effectively integrate SGDV into education. In turn, these

insights will provide direction for future research. Most importantly, the research offered the opportunity to gain rich data conducive to developing a better understanding of how students engage with SGDV tasks, participate in a project, and collaborate with each other.

8.6 Recommendations

This study presents findings that could be considered by educators, higher education authorities and researchers, giving rise to practical recommendations for practitioners to move beyond the technological and pedagogical affordances of SGDV, towards a holistic approach to the promotion of student engagement. Educators could therefore design Cognitive Apprenticeship learning environments, whereby the learning activities include modelling and coaching.

Higher education institutions need to realise that many digital technologies are easily available and accessible to students and lecturers. Therefore, when integrating SGDV, for example, institutions ought to create environments that promote technology acceptance among those faculty members who may be reluctant to use such a tool. Furthermore, the current findings may yield insights and implications concerning the integration of digital video and the ways in which lecturers enhance student engagement through the use of such a tool. As a result, it is important for higher education institutions to consider the results of this study when planning the implementation of similar technologies for use by students and lecturers.

Aside from the above, this study has generated other potential areas of future research. For instance, there is a shortage or even total absence of research on student-generated videos and student engagement in Kuwait and other Arab states. Likewise, there is a paucity of research detailing how students construct knowledge when working in groups and how they share their knowledge. Further research could therefore focus more on how students form groups, build relationships, share knowledge and create videos in collectivist and high-context cultures, such as Kuwait and the other GCC countries.

Future research should consider examining the effect of SGDV on student engagement at all levels of education. More specifically, students in Kuwait need to be exposed to technologies like SGDV at an early age, in order to counter or override traditional approaches. Technology such as SGDV could also be used in all classrooms as a means of motivating students, enhancing their interest and encouraging their engagement in different subject areas. In addition, the timescale for studies could be increased to encompass an entire academic year, so that the true usefulness of SGDV in the classroom could be observed. Another proposition would be to compare two different classrooms, where the same subjects were being taught. This would mean conducting a quasi-experiment, using a control group taught exclusively with traditional teaching methods, and an experimental group involved in SGDV. This would allow researchers to compare the affordances and challenges of SGDV, compared to those of traditional teaching methods.

8.7 Concluding Remarks

Over the past two decades, technology has gradually found its way into higher education classrooms in Kuwait. The country has spent considerable amounts of petro-dollars on technology and infrastructural support. However, the literature from Kuwait reviewed in this thesis clearly illustrates that few teachers have acquired the necessary technological pedagogical content knowledge (TPACK) in a highly centralised education system to really be able to integrate technology into instruction. In order to fill this gap, this study investigated the ways in which lecturers integrated SGDV to engage their students and the students' use of this opportunity to enhance their engagement. This research study was therefore necessary, because the use of SGDV for classroom instruction will continue to be a reality in higher education in Kuwait. In order to keep pace with the rate of change in technology, educators must continue to discover new ways of engaging their students and enhancing their learning. For instance, the present study has explored changes in teaching practice, as viewed through the lens of social constructivism, TPACK and the DiAL-e framework, which places specific emphasis on active learning. The findings and the SGDV Model of student engagement proposed in this study suggest that several relevant factors

contribute to student engagement, such as the quality of the teaching strategies, student motivation, active and collaborative learning, student-lecturer interaction, support and constructive feedback from lecturers, and meaningful interaction within communities of practice.

There appears to be gender bias, as more female than male students were selected for observations and focus groups. The study may therefore appear to have included too many female students in the sample and this could lead to an assumption of bias, as an equivalent number of male students were not included in the sample. The issue consequently arises of generalising these findings to the population as a whole. However, there was no explicit intention to exclude males, but rather the phenomenon of more female than male students attending the classes. However, the researcher remained conscious of selecting participants of both sexes, wherever feasible, so that the results would apply to both the male and female population. Nevertheless, the researcher was not aware, prior to the data collection, that more female students were enrolled on this instructional television course. In short, the inequalities in the sample were not planned.

The researcher would therefore argue that there was no gender selection bias in this study and coming from a male-dominated part of the world, did not wish for women to be poorly represented. It was a matter of sound reasoning and practicality, rather than of poor sample design. Most importantly, the purpose of this study was not to analyse data, in order to ascertain whether male and female students differed significantly in their use of SGDV. Regardless of this, the present researcher is willing to acknowledge the imbalance in the sample. As a result, future research is recommended to investigate student engagement with SGDV in a gender-segregated environment.

At the start of the academic journey towards this thesis, the present researcher could not have known that it would lead to a privileged opportunity to document the successful implementation of SGDV at a public-sector higher education institution in Kuwait. Now that the study has been completed, the hope is that it will prove useful for informing the field of educational technology and motivating lecturers to use constructivist instructional practices or active learning strategies. The conclusion drawn from this experience is therefore that just as the traditional tools of

instruction, such as blackboards, chalk, paper, pencils and more recently, computers and other innovations, have slowly developed over time, so will the integration of SGDV into the higher education classroom.

Appendices

Appendix A Ethics Approval

Your Ethics Submission (Ethics ID:18171) has been reviewed and approved

ERGO [ergo@soton.ac.uk]
To: Almutairi F.M.

Inbox

Submission Number: 18171
Submission Name: The use of student-generated digital video as a tool for reflection in higher education
This is email is to let you know your submission was approved by the Ethics Committee.

You can begin your research unless you are still awaiting specific Health and Safety approval (e.g. for a Genetic or Biological Materials Risk Assessment)

Comments
1.Thank you for addressing our concerns, and good luck with your research.

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Appendix B Informed Consent Form/Participant Information Sheets

(a) Participant Information Sheet for the Questionnaire

Study Title: The Use of Student-generated Digital Video (SGDV) as a Tool for Reflection in Higher Education: An Empirical Investigation

Researcher: Faisal Almutairi **Ethics number**: 18171

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

I am a PhD student currently pursuing studies at the University of Southampton. I am undertaking this research as it is part of my PhD degree. The purpose of the study is to examine the use of student-generated digital video in higher education pedagogy. My research is funded by the Ministry of Higher Education, Kuwait.

Why have I been chosen?

You have been chosen because you fit the desired criteria of the research study: you are a lecturer or a student and are probably using student-generated digital video in your classes. Your beliefs and perceptions of student-generated digital video are important for deciding how the technology can be used effectively in higher education institutions for teaching and learning. Moreover, the research aims to find out how lecturers use student-generated digital videos to support and facilitate student reflection upon, and engagement with their own learning.

What will happen to me if I take part?

If you decide to take part, you will be administered a questionnaire, which can be completed in less than 15 minutes. The questions will be about your beliefs concerning the use of student-generated digital video as a tool for reflection tool. When I have completed the study, I will produce a summary of the findings, which I will be more than happy to send you if you are interested. Some of you will be observed in class, where anonymous notes will be taken about what is happening. There will be no record of names.

Are there any benefits to my taking part?

There are no financial benefits, but you may find the project interesting and enjoy answering questions about student-generated digital video. However, the information we get from the study will help to increase our understanding of how the technology can be used for teaching/learning in higher education institutions. You can gain access to the results of the study by emailing me after December 2016.

Are there any risks involved?

None.

Will my participation be confidential?

If you agree to take part, your name will not be recorded on the questionnaires and the information will not be disclosed to other parties. Your responses to the questions will be used for the purpose of this project only. You can be assured that if you take part in this project, confidentiality will be maintained and the report will be anonymous. You will not be named in any documents and neither will your name be given to a third party.

What happens if I change my mind?

Your participation in this project is entirely voluntary and if you do agree to participate, you will be free to withdraw at any time during the project, should you change your mind. If you withdraw from the study, all information and data collected from you will be destroyed and your name removed from all the study files.

What happens if something goes wrong?

If you have any concerns about an aspect of this study, you may contact:

Contact Head of Research Governance

02380 595058

rgoinfo@soton.ac.uk

Where can I get more information?

You may either contact me:

Faisal Almutairi

Tel: 0096555107909

Email: Faisal.Almatairi@southampton.ac.uk

(or)

You can contact my supervisor:

Name: Dr John Woollard Email: J.Woollard@southampton.ac.uk

(b) CONSENT FORM for the Questionnaire

Study title: The Use of Student-generated Digital Video as a Tool for Reflection in Higher education: An Empirical Investigation

Researcher name: Faisal Almutairi **Ethics number**: 18171

Please initial the box(es) if you agree with the statement(s):

I confirm that I have read and understood the information sheet (Version number 1.1, dated October 23, 2015) explaining the research project and have had the opportunity ☐

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. ☐

I understand that my responses will be kept strictly confidential. I give the researcher permission to access my anonymised responses. I understand that my name will not be linked with the research materials and that I will not be identified or identifiable in the ☐

I agree to take part in this research project and agree for my data to be used for the ☐

Data Protection

I understand that information collected about me during my participation in this study will be stored on a password-protected computer and that this information will only be used for the purpose of this study.

Participant's Name: ……

Date: ……

Signature: ……

(c) Participant Information Sheet for Interviews/Focus Groups

Study Title: The Use of Student-generated Digital Video as a Tool for Reflection in Higher Education: An Empirical Investigation

Researcher: Faisal Almutairi **Ethics number**: 18171

Please read this information carefully before deciding to take part in this research. If you are happy to participate, you will be asked to sign a consent form.

What is the research about?

I am a PhD student currently pursuing studies at the University of Southampton, UK. I am undertaking this research as it is part of my PhD degree. The purpose of the study is to examine the use of student-generated digital video in higher education pedagogy. My research is funded by the Ministry of Higher Education, Kuwait.

Why have I been chosen?

You have been chosen, because you fit the desired criteria for the research study: you are a lecturer or a student and are probably using student-generated digital video in your classes. Your opinions of the use of student-generated digital video are important for deciding how the technology can be used effectively in higher education institutions for teaching and learning. Moreover, the research aims to find out how lecturers use student-generated digital videos to support and facilitate students' reflection upon, and engagement with their own learning.

What will happen to me if I take part?

If you decide to take part, you will be required to take part in interviews or focus group discussions. The interviews will be arranged at a place and time that is convenient for you. The interview is expected to last no longer than half an hour, while the focus groups may take at least hour of your time. When I have completed the study, I will produce a summary of the findings, which I will be more than happy to send you if you are interested. Some of you will be observed in class, where anonymous notes will be taken about what is happening. There will be no record made of names.

Are there any benefits to my taking part?

There are no financial benefits, but you may find the project interesting and enjoy answering questions about student-generated digital video. However, the information we get from the study will help to increase our understanding of how the technology can be used for teaching/learning in higher

education institutions. You can gain access to the results or study by emailing me after December 2016.

Are there any risks involved?

No.

Will my participation be confidential?

If you agree to take part, your name will not be recorded in the transcripts (or audio-recording) and will not be disclosed to other parties. Your responses to the questions will be used for the purpose of this project only. You can be assured that if you take part in the project, confidentiality will be maintained. The report will remain anonymous. You will not be named in any documents and neither will your name be given to a third party.

What happens if I change my mind?

Your participation in this project is entirely voluntary and if you do agree to participate, you will be free to withdraw at any time during the project, should you change your mind. If you withdraw from the study, all information and data collected from you will be destroyed and your name removed from all the study files.

What happens if something goes wrong?

If you have any concerns about an aspect of this study, you may contact:

Contact Head of Research Governance

02380 595058

rgoinfo@soton.ac.uk

Where can I get more information?

You may either contact me:

Faisal Almutairi

Tel: 0096555107909

Email: Faisal.Almatairi@southampton.ac.uk

(or)

You can contact my supervisor:

Name: Dr John Woollard Email: J.Woollard@southampton.ac.uk

Appendix C Student Questionnaire

College: _____

Name/Pseudonym: _____

Please indicate the extent to which you agree or disagree with the following statements:

	Item	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
(a) Skills for producing videos						
1	I know how to organize my activities					
2	I know how to discuss with others about the SGDV project					
3	I know how to take advantage of common discussions for deepening my understanding					
4	I know how to work in a goal-oriented way in a group					
5	I know how to produce videos collaboratively with others					
6	I know how to use technology in multiple ways during collaborative work					
(b) Knowledge, skills and practices during the SGDV project						
	During the project I have learned....					
7	To give feedback on the work of others					
8	To evaluate the development of a shared product (SGDV)					
9	To work on digital videos that are later used by others or myself					
10	I was able to pursue both my own interest as well as advance the work on shared products					
(c) Benefits of taking part in the DV project						
	Participation in the project					
11	Helped me to learn the content of the module					
12	Helped me to develop my abilities of learning more about the topic and the project					
13	Was useful for group knowledge building					
14	Allowed me to make a useful contribution to other's knowledge					
15	Gave me the opportunity to assess myself					

Appendix D Student Interviews

College: _____

Name/Pseudonym: _____

1. How would you characterise your overall experience of student-generated videos on the course?

2. What have you learned from doing this activity (creating videos)?

3. What do you think of the process of learning through the production of videos?

4. How would you characterise your own participation and activity during the course? Please justify your answer.

5. What has been positive or impressive on the course?

6. What are the challenges or difficulties encountered when using digital technology for this project?

7. How satisfied are you with the guidance and support that you have received from the lecturer?

8. What are the most important ideas and thoughts that you have formed during your participation with your colleagues on the project?

9. If you had the opportunity to submit proposals for the lecturer to develop a teaching method that would be suitable for the video project, what would you suggest?

10. How do you collaborate in your work team? Please tell me about the manifestations of that cooperation?

11. Did you have new experiences in this experiment? Tell me about some of them.

12. How do you evaluate your work as a team member and the knowledge produced by one other student (video producer)?

Appendix E Lecturer Interviews

College: _____

Name/Pseudonym: _____

1. How do your students use digital technologies to produce videos? How do you use digital technologies to give students more teacher feedback?

2. Is there a connection between you and your students' channels through technology to answer their questions or to give them feedback, comments or the like? Could you tell me what it is?

3. In what ways does student-generated digital video promote active learning?

4. How has your technology integration changed your students' performance?

5. In what ways has the project influenced your teaching practice?

6. Do you think that student generated videos have allowed your students to learn differently? How?

7. Do students interact with you? How?

8. Do you apply any particular strategy that supports student engagement in learning? Please explain?

9. Do you think that by applying student-generated digital video you are making changes to existing pedagogy, curriculum and assessment strategies, in order to increase student engagement?

10. Do you think that video projects can help students to reflect on their learning? What are the manifestations of this reflection?

Appendix F Student Focus Groups

College:

_____

Department:

_____

Names:

_____

1. Please express what you all liked about SGDV.

2. Please tell me what you do not like about SGDV.

3. What does the teacher do to help you learn with digital video technology?

4. What did you do when you needed help in dealing with technology related to SGDV?

5. What motivated you and your group of students to produce the digital videos?

6. When you work with digital video technology, do you collaborate? If so, how does it work? What is your usual role in this group?

7. What are the factors that have enhanced your levels of engagement when producing digital videos?

8. Were you willing to accept and use your colleagues' comments to make changes to the project in general and to the video product in particular?

9. How has peer-learning increased your level of engagement when producing videos?

10. How has student-lecturer interaction increased your level of engagement?

11. In what ways does reflection help you to thoughtfully process digital video production?

12. Were you able to co-operate or work with others on the project? How? Did this benefit or hinder your work?

Appendix G Observation Schedule

College:

_____

Department:

_____

Lecturer/class: _____

CLASSROOM ENVIRONMENT

1. Description of the classroom environment in which the teaching and learning are taking place

2. Description of the technology infrastructure in the classroom

LESSON STRUCTURE

1. Description of the overall structure of the lesson.

2. What appear to be the expected learning outcomes of the lesson? Are these learning outcomes primarily linked with the digital video production process?

3. What is the nature of the students' participation in the lesson?
   a) The students' level of technical expertise
   b) The extent of the students' input into the design
   c) The extent to which the task is open-ended
   d) The ways in which the task demands the innovative use of a digital video camera
   e) The digital video-editing software used in the task
   f) The way in which the students' final digital video production will be presented. Will there be a practical use for this product (apart from assessment purposes)?

GROUPING

1. How does the lecturer organise the grouping?

2. How big are the groups?

3. What roles are allocated to group members?

COMMUNICATION/INTERACTION

Please comment on the interaction taking place in the classroom

PEDAGOGY

1. To what extent does the lecturer use digital video resources to develop ideas and responses?

2. Describe the roles of the students and the lecturer.

3. Note any critical incidents relevant to the study.

ASSIGNMENT

1. To what extent are students able to continue with their digital video activity at home/after school?

2. What access do students have to the technology outside of the lesson?

Appendix H Student Interview Transcripts

Group 1

Student No. 1 (S1AA)

Question 1: How would you characterise your overall experience of student-generated videos on the course?

It is a new experience for me in many ways. I found an idea for a new topic… 'funky guitar', although the video is a challenge in itself and the other challenge lies in video production and managing a team to achieve this goal.

Question 2: What have you learned from doing this activity (creating videos)?

Professional photography and the basics of successful commercials, because the idea of the video that we're working on is a commercial (for a product, unprecedented idea). I think I have gained new skills and I could use them in my career, such as critically examining my work by comparing it with the work of my peers, engaging in debates, etc.

Question 3: What do you think of the process of learning through the production of videos?

I was able to understand the negative aspects of practice and positive outcomes. I learnt that I should not focus only on my problems, but also understand my strengths.

Question 4: How would you characterise your own participation and activity during the course? Please justify your answer.

It is good and positive and I enjoyed this project with my colleagues… I was very happy to learn and I discovered that I have the skills , abilities and tendencies that I didn't think I had… I felt very happy when I heard the opinions of my colleagues… they were positive and I gained new experiences.

Question 5: What has been positive or impressive on the course?

I was able to significantly consolidate social and personal relationships, and I am happy with the course; I learned a lot from those relationships, as there was unlimited cooperation. During the course, I was able to recount or recollect the events and learn from my experience.

Question 6: What are the challenges and difficulties encountered in the use of digital technology on this project?

I did not have the ability to intelligently manage and overcome challenges when participating in learning activities, but the use of videos helped me to overcome that problem. I was able

to consult my peers and other experienced colleagues in this field, whenever I encountered difficulties.

Question 7: How satisfied are you with the guidance and support that you received from lecturers?

The lecturer provided complete support. He *acted conscientiously* and facilitated learning by socially interacting with students. He heard us, provided feedback, exchanged his opinions and allowed us to learn collaboratively.

Question 8: What are the most important ideas and thoughts that you have formed during your participation with your colleagues on the project?

My team and I were initially of the belief that video projects had to be exhaustive. We also thought that this would be difficult. However, we soon realised that it is not the length of the videos that is important, but their artistic and aesthetic value, and it is the final output of this video that is more important.

Question 9: If you had the opportunity to submit proposals for the lecturer to develop a teaching method that would be suitable for the video project, what would you suggest?

When students are using the latest equipment to make quality videos that represent the real world, they have to be creative. I would suggest that the teacher use project-based learning.

Question 10: How do you collaborate in your work team? Please tell me about the manifestations of that cooperation.

We used WhatsApp, which changed the way we collaborated. We created two groups, comprising two and three students, respectively. We did not want to communicate via email, as we had to respond immediately to comments or provide feedback. We wanted something that was more instant. We communicated constantly via WhatsApp and exchanged experiences, opinions, ideas and tips, and received invitations to attend filming locations. To reiterate, we were able to establish intimate personal relationships.

Question 11: Did you discover new experiences during this experiment? How? Tell me about some of them.

Yes, I discovered something very important when creating the videos. I did not have to memorise anything. For instance, it enabled me to be creative and to learn on my own. Besides, I really enjoyed making the video as part of a group, it was a fun experience.

Question 12: How do you evaluate your work as a team member and the knowledge produced by another student (video producer)?

I evaluate my work or that of my team by relating it to the knowledge produced by other students' videos. I particularly look for factors such as creativity and innovation.

Student No. 2 (S2AA)

Question 1: How would you characterise your overall experience of student-generated videos on the course?

A unique experience for me; we're on this project and we chose to film a marketing declaration for the College of Basic Education with a duration not exceeding 30 seconds…it is a unique idea. We worked collectively on this project and members of this group have different skills and experiences. We tried to use all these different skills and experiences to produce the best possible result.

Question 2: What have you learned from doing this activity (creating videos)?

A commercial a is short but distinct idea, which must be presented as a quirky art form that requires imagination and good output, until it succeeds as an advert and achieves the goal.

Question 3: What do you think of the process of learning through production of videos?

I think that method of learning makes you care more on course and linked to the project and staff are expected to contribute and make an effort to achieve what is required of the group as a whole, in addition to that the evaluation would be the lecturer and colleagues, inviting you to read, learn, try, practice and collaborate with colleagues and professionals in the community.

Question 4: How would you characterize your own participation and activity during the course? Please justify your answer.

I was the communication link between the group and the lecturer, having the confidence of colleagues due to my experience in this field and I have some skills and personal relationships that helped us a lot during the project, but I make sure I greatly transfer this experience to my colleagues and also the lecturer asked me literally.

Question 5: What has been positive or impressive in the course?

For the first time designed advertisements and I think it was an inspiring experience although commercial adverts do not exceed 30 seconds. This is a real challenge makes you think too much what can this seconds how to connect marketing message appealing to the viewer.

Question 6: What are the challenges and the difficulties encountered in the use of digital technology in this project?

In this project we have several difficulties but the lecturer played the role of a mentor and gave us some options to resolve the problems. The help we received allowed us to convince the advertising company which has been in the business for a long period of time.

Question 7: How satisfied are you with the guidance and support that you have received from the lecturer?

He helped us whenever we had too many options on hand and were in a dilemma. Also, he encouraged us and taught us the importance of communication.

Question 8: What are the most important ideas and thoughts that you have formed during your participation with your colleagues in the project?

The ideas and thoughts I formed were related to creativity and self-reflection. I was always asking myself *thought*-provoking questions in order to develop a better understanding of the advertisement.

Question 9: If you had the opportunity to submit proposals for the lecturer to develop a teaching method that would be suitable for the video project, what would you suggest?

I would prefer project-based learning because in digital video projects students are evaluated based on their practical knowledge.

Question 10: How do you collaborate in your work team? I beg you tell me about the manifestations of that cooperation?

I'm as a Director, a team leader and project roles are divided according to the needs and competencies students, cooperative group has the desire to learn and giving, we communicate continuously using WhatsApp group sending them video clips and sound effects and exchange views, ideas and suggestions.

Question 11: Did you discover new experiences in this experiment? How? Tell me some of them?

Directing marketing adverts.

Question 12: How do you evaluate your work as a team member and the knowledge produced by another student (video producer)?

My team is well organized, work is going on according to a plan, and we wish to obtain work on impressive the lecturer and colleagues and be at good will.

Student No. 3 (S3AA)

Question 1: How would you characterize your overall experience of student-generated videos in the course?

Undoubtedly, experience is useful. I have previous experience in filming and editing and using visual and sound effects. What I learnt in this project was how to work as a team, to collaborate and co-create a video. The idea was to create a toy story.

Question 2: What have you learned from doing this activity (creating videos)?

Using new software specialized in the production of toy story and multiple skills in using advanced software. I think if it wasn't for this project I wouldn't have had the capacity for *short*-storytelling.

Question 3: What do you think of the process of learning through production of videos?

Theoretical education can make one bright but not creative. I know it is just good for passing a standardized test. I prefer to acquire **knowledge practically. It** helps me to acquire specific skills that I can use later at any stage of my life.

Question 4: How would you characterize your own participation and activity during the course? Please justify your answer.

I was able to make a good team member. By participating I was able to study a number of toy story videos and how to apply different types of visual effects that could be used for making videos. I made a number of suggestions, and after all team members agreed my ideas were used.

Question 5: What has been positive or impressive in the course?

During the course, I was able to build rapport with team members. The encouragement I got from the team gave me a great deal of satisfaction. The informal feedback from members of my team helped me to acquire new skills and learn about new programmes.

Question 6: What are the challenges and the difficulties encountered in the use of digital technology in this project?

The most important challenge was choosing an appropriate toy story technique.

Question 7: How satisfied are you with the guidance and support that you have received from lecturers?

Frankly, the lecturer of the course was very thorough and dedicated. He partnered with us in the project and considered our success to his responsibility. He was a catalyst who stimulated us.

Question 8: What are the most important ideas and thoughts that you have formed during your participation with your colleagues in the project?

We gained new experiences in this project, I believe that all colleagues in this project have learned new skills and characteristics in a toy story and you can see that development in their abilities and their skills through the personal accounts they made on Instagram and Snapchat.

Question 9: If you had the opportunity to submit proposals for the lecturer to develop a teaching method that would be suitable for the video project, what would you suggest?

I would suggest any student-centred *teaching approach which enables* discovery learning.

Question 10: How do you collaborate in your work team? I beg you tell me about the manifestations of that cooperation?

To get everyone on the same page we used WhatsApp. The instant messaging software fostered instantaneous collaboration.

Question 11: Did you discover new experiences in this experiment? How? Tell me some of them?

When creating the toy story along with my team members, I was able to develop entirely *new*, effective means of sharing, creating, and communicating ideas.

Question 12: How do you evaluate your work as a team member and the knowledge produced by another student (video producer)?

I do not like to produce work that is unacceptable, and fails to meet the requirements of other members of the group, So I compared my work with that of my fellow students so that it meets the requirements of the project team.

Student No. 4 (S4AA)

Question 1: How would you characterize your overall experience of student-generated videos in the course?

I think I can summarize the idea of the subject, it is the basis of the project your imagination in all its details, it is a thrilling experience made me learn in an environment different from the College environment.

Question 2: What have you learned from doing this activity (creating videos)?

Commitment, leadership and management skill, patience and overcome the problems facing the project planning and management skills, in addition to the many skills needed for video project.

Question 3: What do you think of the process of learning through production of videos?

It supported formal and informal learning.

Question 4: How would you characterize your own participation and activity during the course? Please justify your answer.

I tend to learn practically not theoretically, love to oversee all the details, but I respect others' opinions and proposals and incorporate it in many cases.

Question 5: What has been positive or impressive in the course?

Teamwork and cooperation and a sense of team spirit is one of the most important pros video project, as well as the exchange of experiences and the consolidation of social relations.

Question 6: What are the challenges and the difficulties encountered in the use of digital technology in this project?

We needed as a team high quality potential camera that can connect with microphones, there are many good species, we encountered a real problem in choosing the idea. We turned to Instagram where you find professional photography have accounts in this application. We communicated with one of these professionals who recommend one of these cameras and gave us good tips, we entered the Internet sites and YouTube is already assured of its quality, we buy them.

We thought as a team we're going to finish this project in one way or another way, why can't we offer excellent camera work and produce a film compete with other colleagues.

Question 7: How satisfied are you with the guidance and support that you have received from lecturers?

To be honest the most positive thing is the lecturer of the course, he differs from many, inevitably handled pushes you forward and creativity anyway. I planned to record with lecturer who has good reputation.

Question 8: What are the most important ideas and thoughts that you have formed during your participation with your colleagues in the project?

Work with sincerity and conscience leads to inevitable result is success.

Question 9: If you had the opportunity to submit proposals for the lecturer to develop a teaching method that would be suitable for the video project, what would you suggest?

Processing of a television studio as quickly and provide all the equipment and facilities for television production, because students have the desire and competence, but most of them lack potential.

Question 10: How do you collaborate in your work team? I beg you tell me about the manifestations of that cooperation?

We cooperate very well and we have the flexibility to work but we also fully committed time frame, and everyone is committed to this project.

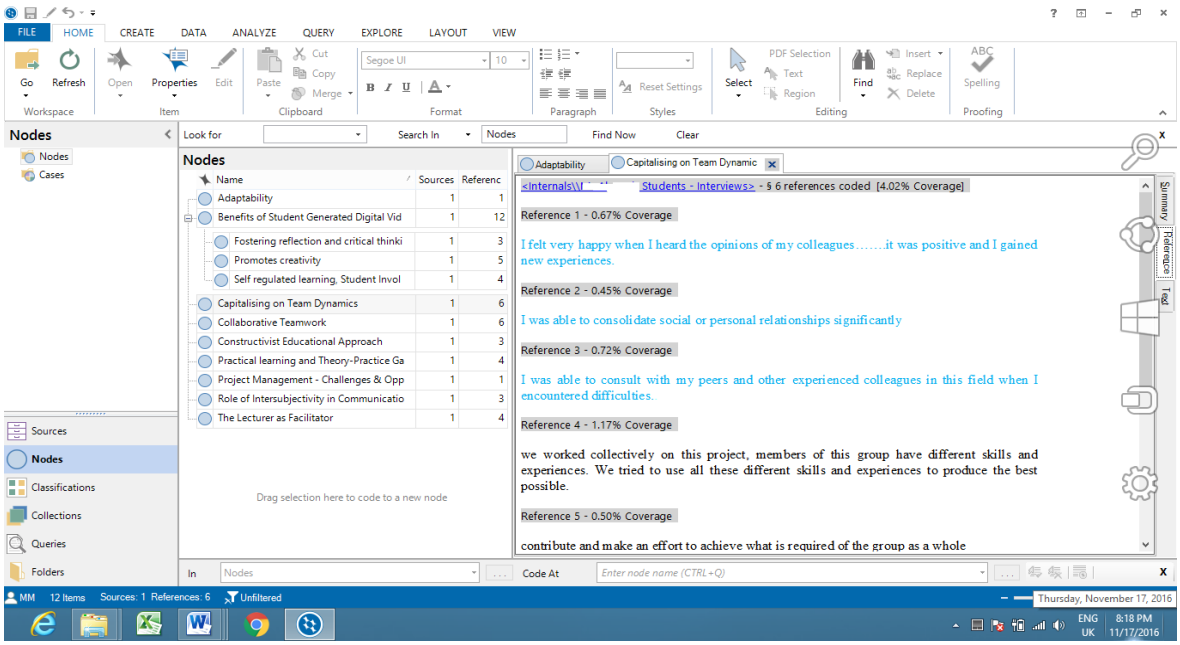
Question 11: Did you discover new experiences in this experiment? How? Tell me some of them?

Yes, sometimes it's a simple idea but many valuable, and fundamental task, how do you want to see the viewfinder.

Question 12: How do you evaluate your work as a team member and the knowledge produced by another student (video producer)?

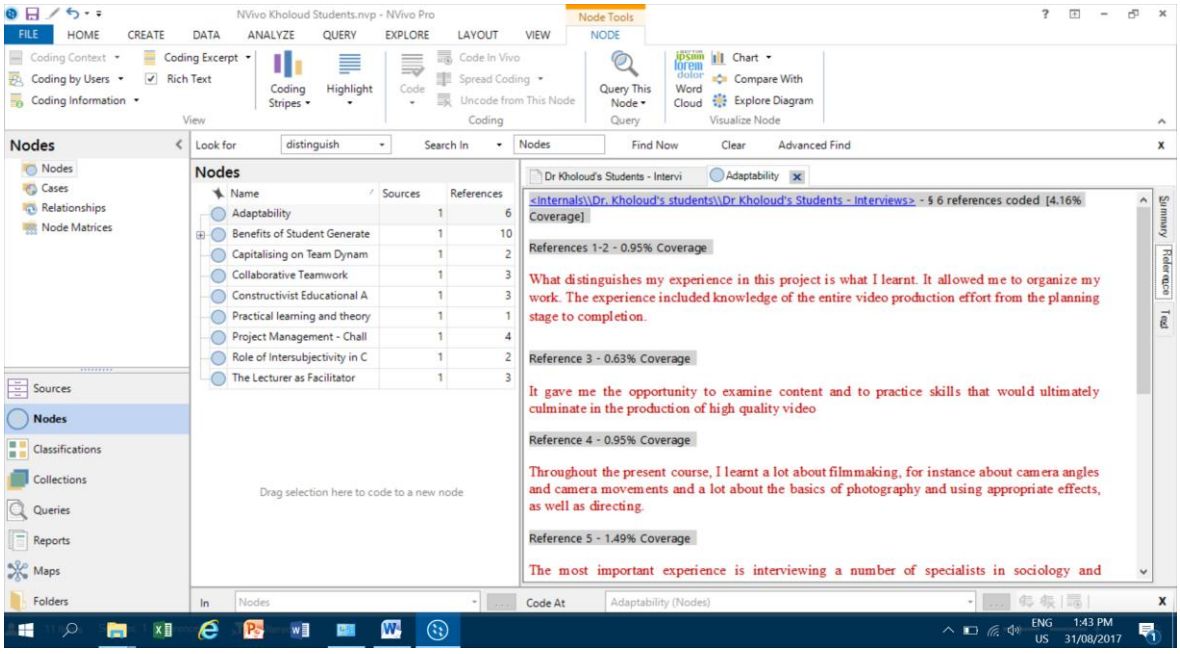
My team is working effectively and is very excited about the idea, as well as lecturer who expects to show the product properly.

Appendix I Student Interviews NVivo Screenshots



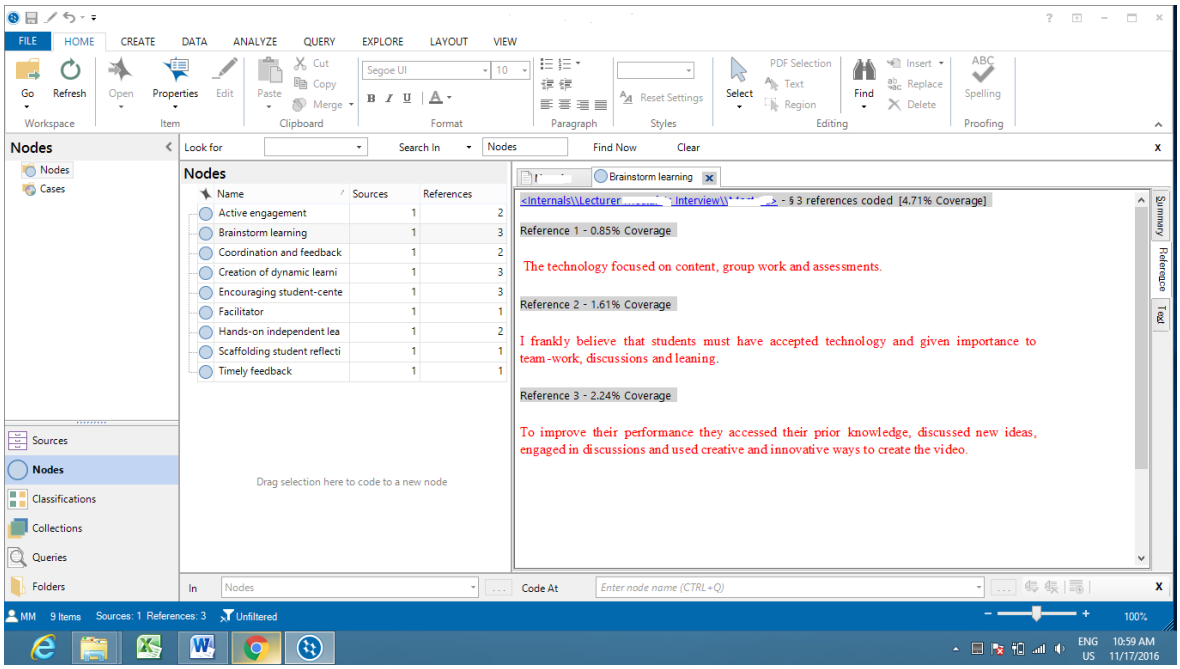
Theme: Capitalising on team dynamics

Group 2



Theme: Adaptability

Group 3



Theme: Brainstorm learning

Appendix J Lecturer Interview Transcripts

Lecturer LA

Question 1: How do your students use digital technologies to produce videos? How do you use digital technologies to give students more teacher feedback?

Almost all students are digitally literate and adept in using mobile phones and digital cameras for example *digital single-lens reflex cameras (*DSLR) and point-of-view cameras such as GoPro HERO. They were recording, capturing images and posting them online immediately or sharing it with others via Facebook or other mobile apps so that they can get personalised feedback. They were individually and collaboratively, engaging in creating digital videos.

As an academic I understand the needs and learning preferences of students. As students are highly visual I integrated the video project to increase their engagement. They prefer interaction and collaboration and so I used instant messaging to communicate with them in real-time and most importantly provide timely feedback.

Question 2: Is there a connection between you and your students' channels through technology to answer their questions or to give them feedback, comments or the like? what is it?

It is impossible to communicate with each and every student. So I had divided the students in the classroom into small work groups consisting of three or four students. Each group was represented by a leader who communicated with me on behalf of others in the group. The channel of communication was WhatsApp. I could have used other applications or email or the college website but I used WhatsApp in order to engage the learners. In doings so I tried to foster lecturer-learner relationships.

Question 3: In what ways does student-generated digital video promote active learning?

Student generated videos created opportunities for collaborative learning during the project. There was unity among the members of the group. They made decisions about what they have to learn and how to use technology to acquire that knowledge. In order to achieve their goals the students involved in brainstorming sessions. All members of the group took part in discussions. The assigned task of creating a video seemed to kindle independent thinking and problem solving in areas such as script development, selecting camera angles and editing video.

Question 4. How has your technology integration changed your students' performance?

I understand from previous research that technology can increase student motivation and performance. When I invited students to actively participate in this project, I was surprised but glad that they took responsibility for learning. The use of technology had a positive impact on student attitudes. Through dialogue and negotiation the students were seen identifying problems, for example: those associated with camera angles and issues related to editing, as well as generating new ideas and drawing conclusions. Therefore, I am rest assured that technology integration had contributed to improving student performance.

Question 5: In what ways has the DV project influenced your teaching practice?

When I was planning to integrate the video project within the curriculum I had prior understanding that I had to change the way I teach. I knew that I had to do away with traditional classroom instruction. Therefore, I paid more attention to understand the way students think. I attended to student ideas when they were engaged in the project. I did my best to transfer the responsibility for the learning process to the student so that they can learn independently, for example, engage in group discussions and use prior knowledge. I provided support and enabled self-regulated learning. There are 4 or 5 students in each group and I had to also understand the differences in their learning styles. This was a challenging task as I had to provide individualised teaching and learning experiences to help students learn more effectively.

Question 6: Do you think that student generated videos have allowed students to learn differently? How?

Yes. It has. Students are using new ways for becoming engaged learners. This could be seen in the way they interacted with visual content during the production of the video. I have had the experience of teaching to students in Kuwait for some time and know that students retain content through memorisation and rote learning. Throughout the video project I experienced students having developed the ability to remember what they were doing. The active learning experience gave them the opportunity to jot down what they were doing and therefore able to retain information.

Question 7: In what ways has the DV project influenced your teaching practice? Do students interact with you?

It was evident from the project that the focus of activity had shifted from me, the lecturer, to the students. Throughout the project, I had on couple of occasions asked students to let me

know if they understand basic concepts and the finer nuances of film making. I encouraged students by asking them to mutually discuss problems and then turn to me. On some occasions, I gave suggestions which allowed the students to make corrections or improvements. This approach allowed the students to understand the video making process and greatly improve their problem solving capability.

Interaction was crucial especially for providing real-time remediation. Through interactions, I donned the role of a mentor and guided the students to construct knowledge. I also used the same technologies that students use for communicating and for providing feedback.

Question 8: Do you apply any particular strategy that supports student engagement in learning? Please explain?

In order to support student engagement in learning I applied collaborative learning strategies. When creating videos in classrooms, it is common for lecturers to create student groups, encourage them to hold discussions, and motivate them to accomplish their tasks. This was essential for creating a collaborative learning environment where team work thrives. This strategy fostered autonomy, social interaction, individual accountability and created self-reflective learners. I actively involved students in the project and understood their learning needs by assessing them regularly. The outcome was the creation of authentic student generated videos.

Question 9: Do you think that by applying student-generated digital video you are making changes to existing pedagogy, curriculum, and assessment strategies in order to increase student engagement?

Until recently, traditional approaches were used and not many changes were made by teachers as they were reluctant to use technology for instructional purposes. I made changes to the way I taught and carefully constructed a curriculum that was project-based and would have an impact on student learning. Asking the students to create a video was meaningful and relevant to their experiences, and long-term objectives. I gave them the opportunity to interact with their peers and myself outside the confines of the curriculum. There was more interaction, negotiation, and exploration among the students and myself. I engaged them to explore and discuss the content together but I stood aside as the learning developed and the task of creating the video was accomplished by the students. I also used authentic assessments to measure their progress and ensured that they performed given tasks well. Students were also given the opportunity to assess the performance of their peers.

Question 10: Do you think that video projects can help students to reflect on their learning? What are the manifestations of this reflection?

Yes, video projects can help students reflect on their learning. However, activities associated with making videos alone cannot help students to reflect on their learning. They need guidance.

During the project, I wanted students to have the ability to relate and construct meaning from their experiences. This required reflection. *But, not all students may have the ability to recollect what they l*earnt in the past and apply it in an activity. I had coached the students on how to reflect. I asked them to maintain logs or make notes for this purpose. By reflecting on their own and on their peers' work, students were able to create the video successfully.

Lecturer LB

Question 1: How do your students use digital technologies to produce videos? How do you use digital technologies to give students more teacher feedback?

We are almost 16 years into the new millennium and are witnessing students interacting and collaborating using mobile devices, for example smart phones and android tablets, with high-quality cameras. The phones also come with different types of applications or apps, with access to the camera and address book. There are also apps for editing which are designed to allow users to easily use them. The cameras allowed students to stream their feed to a computer for the purpose of editing or forwarding footages via email or cloud computing software such as iCloud or Dropbox or Google Drive. I observed students using stabilizers and tripods with their cameras.

Students were using the videos they had created as a reflection tool to reflect on their own learning. I usually ask students to send the videos to me for providing feedback. When students receive their feedback via WhatsApp, they appear to find it a positive experience.

Question 2: Is there a connection between you and your students' channels through technology to answer their questions or to give them feedback, comments or the like? What is it?

I communicate with my students using WhatsApp. I control this group, such as the prevention of sending messages after seven pm, and restrict them from using the *WhatsApp* public group for other purposes …….as it is meant to serve the interests of only

those in the group. I informed the students to not use the group app for anything else outside the framework of the course.

Through this WhatsApp group I communicate with my students and get to know their problems and the difficulties they face and comment on the video footage. I try to send them my feedback immediately. Although email or website postings also serve as ideal forms of communication. I prefer to use the app as a tool for coordinating learning, making assessments and providing feedback.

Question 3: In what ways does student-generated digital video promote active learning?

The goal of the students was to create a meaningful project. Surprisingly, the intention of all the students was to building supportive relationships so that they could work collectively and achieve team objectives. I know these students well and during classroom projects they did not show signs of being interested in memorisation. I encouraged them to discuss, analyse, and apply their thought and ideas to real-world situations.

Students in this project demonstrated that they had a strong desire to experiment, to practice and learn, as well as discover things about themselves they did not already know. Whenever they were faced with a difficulty, they would seek my comments and feedback. I encouraged them to first discuss amongst themselves before approaching me.

Question 4. How has your technology integration changed your students' performance?

Yes, of course. The use of technologies for producing videos seemed to have unleashed their thinking. The videos allowed the team to follow *its distinctive creative* vision during the project and work with unrivalled enthusiasm. Students took part in group discussions which were related to making the video and instructional video concepts. I observed them going through notes that they had made on paper, and use that knowledge to improve their work. I encouraged group interactions.

Question 5: In what ways has the DV project influenced your teaching practice?

Teaching students in this era where tremendous technological developments are taking place requires a new way of thinking because students are showing a more keenness in using a wide range of gadgets to learn academically and interact socially. I understand their preferences.

I am willing to help students but I do not easily provide solutions or answers to problems easily. I do encourage them to look for important information that supports their projects and

help them to solve problems they may encounter during their projects. I ensured that they had internet connectivity to access online resources. I encourage peer interaction and teaching. However, I did not want to relinquish all control over student activity. I maintained control to some extent and provided support. I took on the role of an enabler helping students engage with problems they encountered during the video project, for example, issues associated with photography skills, camera movements, angles and lenses.

Question 6: Do you think that student generated videos have allowed students to learn differently? How?

Students engaged in active learning such as digital video projects do not seek a great deal of support and guidance from me. I included the video project into the curriculum knowing fully well that I was using a constructivist learning model which postulates that students have the ability to construct knowledge if provided some guidance. I involved students in 'real life' activities by asking them to produce a short documentary about the detrimental effects of computer or video games on children. During the video making process, students acted professionally and were asking questions. The student generated videos appeared to have allowed the students to learn differently, that is to think critically. This was the main goal of the module.

Question 7: In what ways has the DV project influenced your teaching practice? Do students interact with you?

I understand the needs of students and do not rely primarily on the traditional lecture. Students, on the other hand feel that they have to learn how to use technology appropriately, learn and perform well so that they can later on achieve professional success. My relationships with students developed when I had real-time interactions with them, that is when they were engaged in the video project and were experiencing some difficulties, such as poor audio, wrong video delivery formats, and poor or unclear communication of ideas. To me such interactions influence my teaching practices. Interactions are crucial, as it is not possible to provide feedback without communicating through a mutually agreed upon channel. I also receive feedback from students about my role and my practices which help me to further improve my teaching approaches. I was able to improve the planning of classroom activities.

Question 8: Do you apply any particular strategy that supports student engagement in learning? Please explain?

For me, establishing positive relationships with learners is the most significant strategy for engaging students. These relationships are useful for understanding the needs of students and what their objectives are in order to plan and develop lessons which engage them and are important for their professional lives. I built rapport with students to know more about their learning habits prior to integrating the video project within the syllabus. I had asked them to maintain a diary for noting down their reflections. By reading these diaries, I was able to know more about students' outlooks, difficulties and accomplishments.

Question 9: Do you think that by applying student-generated digital video you are making changes to existing pedagogy, curriculum, and assessment strategies in order to increase student engagement?

Of course, I do. I made changes to existing pedagogy by designing and using innovative learning tasks for promoting student engagement….I am referring to this video project. I used an integrated digital video-based *curriculum a*nd *changed* modes of learning to meet the needs of each *student.* I did not prescribe a particular technology or device for the purpose of making the videos. For example, I allowed them to use smartphones for photography and montage, and gave them the freedom to buy music and special effects software online.

I allowed the students to shoot a moving object for 30 seconds, for example a feather, bird, leaf or a kite, with audio effects and share it among members of the group. Students observed the reaction of the team, raised questions and engaged in interactions. I also assessed these activities and provided feedback via instant messaging social software. I think I was engaging them enthusiastically.

Question 10: Do you think that video projects can help students to reflect on their learning? What are the manifestations of this reflection?

I am not sure if students can enhance their level of reflection by using technology. I believe that lecturers have to guide students through a period of reflection. I suggested to the students to engage in discussions and questioning. This is because I believe that technology can support them in reflecting only if they collaborate as a group.

For example, if a student creates a video or uses images to *make a storyboard*, he or she has to share it. Then, the members of the work group can use reflection to modify the video. This can help students to learn better. Peer and lecturer critique and feedback can also

enhance reflection. These approaches were adopted by all the students during the video project.

Lecturer LC

Question 1: How do your students use digital technologies to produce videos? How do you use digital technologies to give students more teacher feedback?

Students are able to handle professional camcorders and other digital photographic equipment and use them for working with storyboarding, scripting, exploring, editing as well posting videos online. Students share the videos they had generated with their fellow colleagues, review and make adjustments.

I normally ask students to send what they had created via email or through the use of social software so that I can review it, and ensure that the content is appropriate.

Question 2: Is there a connection between you and your students' channels through technology to answer their questions or to give them feedback, comments or the like? What is it?

I communicate with my students through a variety of means, for example via e-mail and WhatsApp. Most often the students share their videos with me by using WhatsApp which is a social software commonly used by many. This app is known for its accessibility and allows students to get in touch with me from their mobile phones any time or from any location. However, they can only send short films or sections of their work not larger than 16 Megabytes. Whenever, I received such material, I was able to review it, assess students' learning, and provide feedback immediately.

Question 3: In what ways does student-generated digital video promote active learning?

Student generated videos are tools that promote active learning. I observed students engaging with the product and collaborating with each other. They were working in groups so that they could carry out challenging tasks. As they were creating videos they were able to select main sections for group analysis and move back, thus indicating that they wanted to achieve learning outcomes. In other words, they were monitoring their own understanding by engaging with their peers. I received several messages on my phone requesting me to guide them. They appeared to understand that working with digital video allows them to practice skills that they could use later in their professional lives.

Question 4. How has your technology integration changed your students' performance?

I am of the opinion that the DV project was effectively integrated into the curriculum. The technology focused on content, group work and assessments. The technology used for the project had not only supported the students in understanding the instructional TV module but also helped them reach their goals. I frankly believe that students must have accepted technology and given importance to team-work, discussions and learning. I was able to assess their performance during the project and after completion. Students must have realised that they had to perform well and their performance would help them prepare for future lives and careers. To improve their performance they accessed their prior knowledge, discussed new ideas, engaged in discussions and used creative and innovative ways to create the video.

Question 5: In what ways has the DV project influenced your teaching practice?

The integration of the video project changed the way I taught. I had to give importance to collaborative group work and avoid lectures. I stopped the use of standardised tests in the classroom to assess student performance. I encourage student-student discussions as I see benefit in peer-to-peer interaction. As the students in video projects work in groups, they can develop reasoning and critical thinking skills.

Question 6: Do you think that student generated videos have allowed students to learn differently? How?

Yes, a lot. Students engaged in video projects depend more on their abilities and competence during the learning process. They were always thoughtful and searching for distinctive ideas that they could use during filming the video and mechanism to implement their plans. They were also looking for sources on the internet and watching movies and videos. They were collaborating with colleagues and building social relationships in order to *improve teamwork* and *collaboration*. The efforts made by the students seemed to have a big impact on the way they used camera equipment, and related software. All this also suggests that the students were learning something new and doing so differently.

Question 7: In what ways has the DV project influenced your teaching practice? Do students interact with you?

I had many opportunities to talk and interact with my students. At the commencement of each project I used to meet with work groups comprising of 4 or 5 students. I listened to them and never argued with them about their choice of ideas and topics. I discussed the problems and difficulties they may face in their project, for instance, film location, financial constraints, or technical issues related to script, story board etc. Students welcome my feedback during the interactions. The interactions during the project also provided fuller feedback about my teaching practices.

Question 8: Do you apply any particular strategy that supports student engagement in learning? Please explain?

I provided autonomy support to students. I encouraged them to learn independently but guided their learning and activity. The digital video that was incorporated into the module supported student engagement as it offered interesting opportunities for learning in an activity based learning environment. It also provided challenges that fostered critical thinking skills and engaged students in achieving their learning objectives. My goal was to engage students by using instructional approaches that assisted in the development of student *autonomy*.

Question 9: Do you think that by applying student-generated digital video you are making changes to existing pedagogy, curriculum, and assessment strategies in order to increase student engagement?

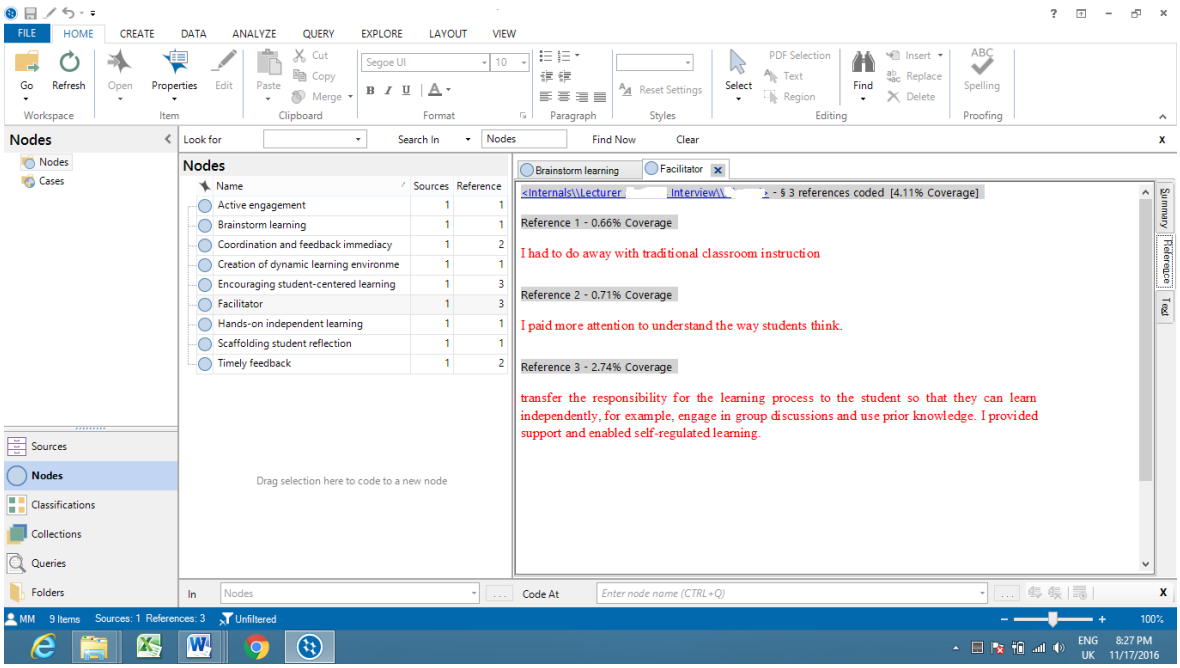
If students are to become independent learners, communicative strategies have to be used to increase student engagement. I made changes to existing teaching practices, the curriculum and assessment strategies by encouraging team work, by not giving stand-up lectures and using practices that were interactive in nature. I fostered student engagement by asking learners to create content, for example, in writing the script and creating story board. I made sure that s*tudent voice* is valued and *respected*. So, I also enhanced student engagement by asking learners to review segments of their respective work so that they could assess them critically and feel that they are learning effectively.

Question 10: Do you think that video projects can help students to reflect on their learning? What are the manifestations of this reflection?

Students in the video project were making attempts to link their experience in generating the video with what they learnt in the past. I had suggested to the students that they should not commit to memory any material but to critically examine what they had learnt while making the video. Adhering to my advice, the students interacted with their peers, used self-judgement and assessed their work as well as that of their fellow learners. The digital video project was a task that I had help model. I wanted the students to learn how to make the video independently by referring to the theoretical aspects I had taught them earlier. Learning occurs when the students learn independently with some guidance.

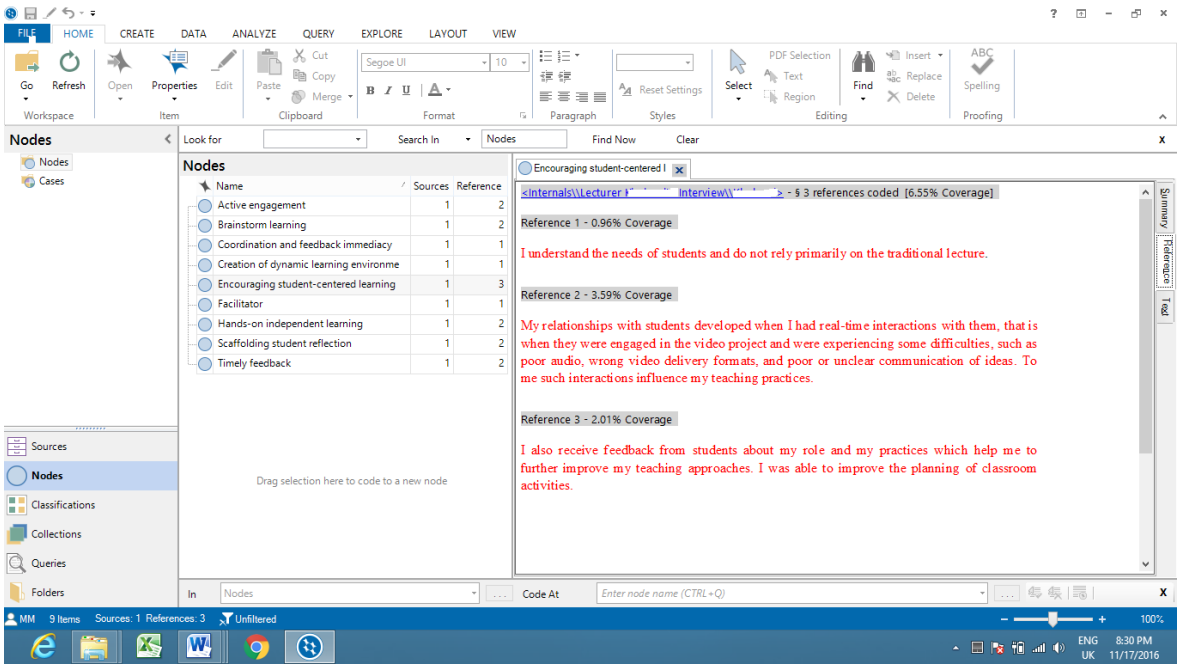
Appendix K Lecturer Interview NVivo Screenshots

Lecturer LA



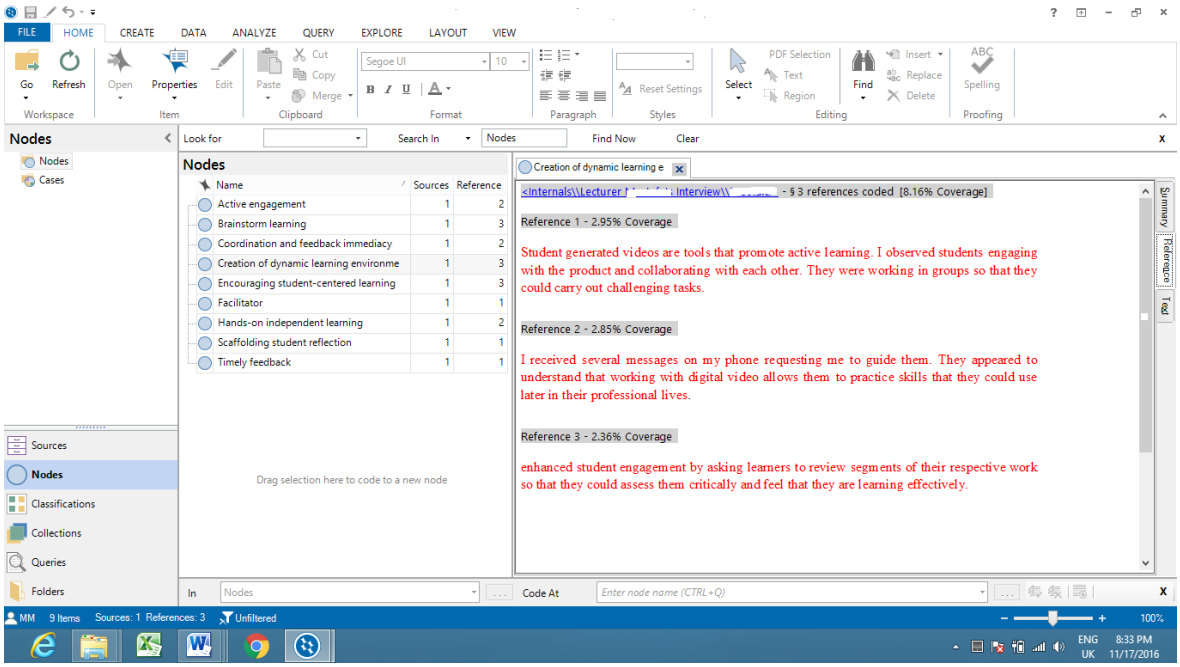
Theme: Brainstorm learning

Lecturer LB



Theme: Encouraging student-centred learning

Lecturer LC



Theme: Creation of dynamic learning environments

Appendix L Focus Group Interviews Transcripts (Students)

Group 1

Q1. Please express what you like in a digital video project.

Student 1:

I liked it because it involved team work. The project appealed to me as I was able to work with other students in order to achieve common objectives. I had frequent dialogue and useful discussions on topics and ideas related to the project with the team members. I enjoyed going out of the college campus to search for filming locations and in the selection of appropriate places for filming. The outdoor activities also helped in making new friends and forming new relationships.

Student 2:

The use of new programmes (software) which I had not dealt with before was challenging. I have gained additional expertise in photography, participating with colleagues in my group and other groups as well. Besides cooperation I found that was more committed in the work and exchanged my experiences and ideas with others.

Student 3:

What I liked most was the spirit of teamwork, and that I was able to gain new skills in photography.

Student 4:

Digital video project involves collective work. All of us came together as a team…in new roles as that of authors, script writers, photographers, directors etc. I liked the idea of forming teams to achieve a certain goal. Although, we were students and did not have any real big experience in producing films, this project gave us the opportunity to exchange ideas and learn from each other.

Student 5:

The most important thing I liked was the experience I gained working as a team, and consolidating social and personal relationships with fellow students. I have benefited greatly from one of my colleagues who had previous experience in performing arts. I also learnt

different imaging techniques with the help of my lecturer, who was conversant with this style of teaching.

Q2. Please tell me now what you do not like in the digital video project?

Student 5:

What I did not like was the lack of technical knowledge of the equipment and software programmes. I found it difficult acquiring the skills for imaging modes and also in identifying the adequate equipment for location shooting. However, I feel that the presence of lecturers and technical helped and guided me to accomplish some of the tasks. Digital video projects in external locations require different types of imaging and I was not able to use theoretical knowledge that I had gained in classrooms. Besides, moving between remote filming locations and the college was time consuming.

Student 4**:**

The College of Basic Education has not yet installed some of the equipment because the building was new…we just moved recently to the building. Also, the studio at the department of educational technology was not ready. This prompted us to buy some equipment, such as microphones from the special budget for the success of our projects. And also I found it difficult applying some of the theoretical and technical instructions of the lecturer related to photography in the location.

Student 3**:**

I agree with what my colleagues mentioned, but for me it was the lack of technical support that caused problems.

Student 2**:**

I also agree that the lack of equipment and technical support were the main obstacles during the project.

Student 1**:**

I think that lack of hardware, and the material costs that we as students had to bear to buy necessary equipment for the digital video project was a problem indeed.

Student 5**:**

A specialist student in education technology is fully aware that equipment, such as cameras, lenses and carriers are necessary for video projects. However, renting or buying such equipment to accomplish our project is expensive and burdensome. Although, I do not deny that we enjoyed our work and we had benefited greatly.

Q3. What did the lecturer do to help you learn in the digital video project?

Student 1**:**

The lecturer facilitated learning in the classroom. However, what we had learnt in the classrooms was theoretical and we initially had difficulty in translating theory into practice. I wish that the lecturer also would accompany us and facilitate our work in the field.

Student 2**:**

I also feel that the lecturer would accompany us for outdoor shooting as we can benefit from his practical experience and in answering our inquiries.

Student 3**:**

I think that the lecturer should also include more practical lessons. We need more guidance on choosing good filming conditions, camera movements, proper lighting and other necessary skills that will have an impact on the final product (video).

Student 4**:**

Each lecturer has his own style. We were taught how to be make movies using some basic equipment. We also need basic skills to use some of the new equipment that we did not use before like using and leveraging moving cameras, and in using remote controlled aircraft or drones that carry cameras for aerial photography. But dealing with this equipment without supervision, or using it through trial and error may be costly as it could cause equipment malfunction or damage and disrupted work.

Student 5**:**

Every lecturer has his own style. As a team we emphasize the need for learning the practical elements of photography, with the lecturer facilitating learning through theory and practice. The lecturer accompanied us once and we were asked to shoot a few angles of one object - a tree, for example….from different angles and that was a useful lesson.

Student 2**:**

To be honest this lecturer has spent hours outside of the lecture - of his own time - and we met as a team, to discuss a video that we had produced. He reviewed the video and pointed out the mistakes that we had made. His suggestions were valuable in creating a better film.

Q4. What did you do when you needed help in dealing with technology related to digital video?

Student 1**:**

We use the WhatsApp group which allows us to collaborate and find ways of dealing with some of the technology related to digital video. The inquiries, comments, suggestions and feedback from members of the team, from the lecturer and other professionals in the field are used to help form our decisions.

Student 2**:**

On one occasion we faced a problem with lenses, and the best ways to choose and use them…..we asked group members to seek guidance from external professionals with whom they had personal relationships and we were able to solve the issue.

Student 3**:**

We rely primarily on WhatsApp group and like my colleague mentioned we use personal contacts and gain knowledge from experienced professionals, reflect on those problems that we face, and solve issues.

Student 4**:**

As for me, through team work we were able to gain better knowledge and deal with the technologies.

Student 5**:**

First and foremost it was full cooperation and communication with other colleagues in the group…there are two groups …one is WhatsApp group through which we as members of the project collected information and knowledge as a team. Then we collaborated with students who were studying educational television at the college. We also have the lecturer who ably guided us.

Q5. What motivated you and your group of students to produce the digital videos?

Student 1**:**

One amongst us is the team organizer but we all have to work hard. This drives us all to put in a lot of effort to achieve productivity and creativity.

Student 2**:**

The group discussions we have motivates me to work for the team. I am able to exert more effort as the single most important factor is working towards achieving a specific goal.

Student 3**:**

What motivated me was the competition from members of team. There was the need to do well individually and as a team member.

Student 4**:**

What motivated us to work together was the enthusiasm we had. There was willingness to accept the suggestions of each team member during our face-to-face meetings as well as online chat I mean through the use of WhatsApp. Moreover, we have a lecturer who encourages and urges us anytime we are in a difficulty.

Student 5**:**

I was very motivated. This project was fun. I had the opportunity to come out with my own ideas.

Student 6**:**

One thing is the team work. Then there is more commitment towards the work. Most importantly, by participating in the project I want to excel in it and use the skills in later life. There is a sense of responsibility and the desire to do my duties to the fullest.

Q6. When you worked with digital video technology, did you collaborate? If so, how did it work? What was your role in this group?

Student 6**:**

Yes certainly there was cooperation. By dividing the roles, we were able to the project. For example, I periodically joined with the rest and submitted ideas and suggestions, both in

directing, photography and editing as well, and we mutually discussed them before making the best decision.

Student 1**:**

I was the photographer and I had to collaborate with the director as well as the rest of the team to pick the good shots. When the whole team works together it increases the work output.

Student 2**:**

We worked as a group, and through division of labour we were able to separate the work process and create a better product.

Q7. What were the factors that had enhanced student's levels of engagement when producing DVs?

Student 6**:**

The very nature of the project, and the way the lecturer had integrated the video project into the curriculum has enhanced student engagement. Besides, team work and the need to commit to specific dates, and meetings outside the walls of the college have also increased engagement in learning.

Student 2**:**

The fact that we were able to collaborate and actively research to create a video shows that we are engaged learners. We as a team wanted to achieve a common goal, and each member of this group was excited to work towards that objective and leave a distinctive imprint on the project.

Student 3**:**

Looking back, the project was interesting to me. As a group we feel that the skills we acquired will be relevant to the real world. We realised this and supported each other's learning.

Student 5**:**

We, as a group, were able to determine the quality of the digital video we were producing. This independence has resulted in increased student engagement.

Q8. Were you willing to accept and use the comments of your colleagues to make changes to the project in general and video product in particular?

Student 6**:**

Yes, of course. I did take the comments into account which is often useful. I also get into discussions with other working groups and offer suggestions and exchange views. Even unacceptable ideas were discussed. I accept different views and the final decision is up to the group not to the individual.

Student 2**:**

Suggestions and views are always welcome. It sometimes opens attractive prospects never thought of before. It enhances creativity.

Student 3**:**

Taking the views and suggestions of all is extremely useful for all in the group.

Student 4**:**

The ideas that are generated collectively outweigh those that are generated by one individual.

Student 5**:**

I am fully prepared to accept the views, suggestions and criticism, especially from members of the team. Because it is a collective action that has a specific goal all suggestions are used to modify the video.

Q9. How has peer learning increased your level of engagement when producing DVs?

Student 6**:**

I always exchanged views with my peers when writing the script. I feel more relaxed and free when interacting with a peer.

Student 2**:**

I shared ideas with my peers and since we shared a similar discourse, it allowed for greater understanding.

Student 3**:**

We are always engaged in meaningful discussions. I was able to solve problems that I could not have accomplished on my own.

Student 4**:**

I was able to learn new concepts because of the interactions I had with my peers. And also I believe that every member of the talented team has what could teach us.

Student 5**:**

There are individual differences among us, and we all benefit from each other. In order to achieve our goal we had mutually agreed that we have to learn from our strengths and our weaknesses.

Q10. How has student-lecturer interactions increased student's level of engagement?

Student 6**:**

My interactions with the lecturer were very essential for understanding the key concepts. It was also vital for the lecturers in order to understand my ideas on the project....mutual understanding. I see that whenever there is a continuing and positive interaction between him and me there was an increased level of engagement in learning.

Student 2**:**

The interaction with the lecturer has given more confidence to students. The lecturer had given us enough space to learn on our own. He believes and understands that students have to choose the way that suits him.

Student 3**:**

The lecturer by virtue of his experience in the field interacted with us in order to exchange ideas. For example, when we discussed the project with him, his suggestions were used to amend some pf the processes. In other words, the interactions led to increased levels of engagement.

Student 4**:**

The feedback we received from the lecturer was the most important aspect of the interaction between us and the lecturer.

Student 5**:**

I like the way the lecturer interacts with us. He uses WhatsApp which I like. He enables us to generate our own understanding of a concept through dialogue and from other perspectives.

Q11. In what ways did reflection help you to thoughtfully process digital video production?

Student 6**:**

When involved in the project I always looked for ideas that I had used previously. In other words, by comparing previous knowledge I am able to construct new understanding of current ideas and thoughts about the video project. For example, how I had manipulated video functions and output in the past, and then use these ideas to generate new ones during group discussions.

Student 2**:**

On many occasions during the video project, I had to reminisce what I had done in the past. I reflected on it before deciding on an idea or topic. I always looked at what I do from an outside perspective and made necessary changes to producing the video.

Student 3**:**

I like to recall what the lecturer had taught in the classrooms when I encounter a problem. Although what I had learnt was theoretical I try to remember them or go through my log diaries to complete a task. These helped in manipulating and rearranging video shots and ultimately edit the film successfully.

Student 4**:**

All phases of the output video are linked with each other, for example the choice of subject, treatment, writing text, processing or implementation. By recalling my past experience I was able to improve my skills and tactics.

Student 5**:**

I agree that thoughtful critiquing and iteration are necessary when creating videos. Through reflection I was able to edit and finish the project in a better fashion.

Q12. Are you able to cooperate and work with others? How? Does this benefit or hinder your work?

The answer was implicit in the answers to previous questions. All the students in this group agreed that they were able to work together to achieve their goals.

Group 2

Q1. Please express what you like in a digital video project.

Student 2**:**

What I really liked was the opportunity to develop my skills in photography and learn to use proper lighting to improve the quality of the photo and video. I was also able to self-assess my work …I mean the quality of work. I was also happy with the feedback that received the lecturer and from my colleagues which helped in the creation of a quality video.

Student 3**:**

The nature of learning …I mean learning about instructional video through practical exercises such as SGDV was a great experience. There was noticeable improvement in my performance and my skills in photography and video editing.

Student 4**:**

It was a unique learning experience. I was able to learn more about the module in a relaxed manner. The method was experiential and not traditional.

Student 5**:**

What I liked in the first place was the style of lecturer, who allowed use to produce videos by consulting professionals in this area. I was able to gain real world knowledge by dealing with real professionals such as television directors and learning new techniques in photography.

Student 6**:**

It was a gainful experience. Some of the experiences included filming in foreign locations and dealing with experts in the field. Besides, what appealed most to me was the idea of creating videos along with fellow classmates.

Q2. Please tell me now what you do not like the digital video project?

Student 6**:**

The biggest challenge was solving conflicting ideas when members of the group have different opinions. I experienced this when we were arguing about camera angles for filming. In fact, there was a kind of confusion in the shooting site. However, I believe this was a learning curve and we would be able to sort out such issues more amicably in the future.

Student 2**:**

The most serious problem was idea conflict among members… In order to solve this problem, we have record down each member unsatisfied problem in a paper and solve it one by one.

Student 3**:**

When filming in a neighbouring country, we were unable to shoot due to security reasons. Although mobile phones were allowed to shoot videos, the security asked us to refrain from using professional cameras and related equipment.

Student 1**:**

The nature of the assigned task (video production) was unique but we experienced some communication problems. We can't deny that, sometimes we did have arguments, but we were able to find ways to resolve such issues.

Student 5**:**

I did not have any problems during the project.

Q3. What did the lecturer do to help you learn in the digital video project?

Student 1**:**

I think that the lecturer was good but I wish there was more feedback, I mean in technical matters. However, she allowed us the space to learn on our own. It encouraged and gives us absolute freedom to carry out the project.

Student 2**:**

The lecturer encouraged us ….she was constantly urging us to be creative. When we had problems with equipment and facilities she made those available to us. She was pointing out flaws we made, and explained how such mistakes could be avoided.

Student 3**:**

The lecturer played the role of an enabler who facilitated the learning. We knew that she was giving us the freedom to learn on our own but at the same time did not want us sit there and let the students figure out what was wrong.

Student 4**:**

The lecturer had a distinct teaching style. Although we had freedom to do what we wanted during the project, the lecturer did not give us the go ahead until we had discussed our idea and plans with her. This was crucial for the success of the project.

Student 5**:**

We send videos and sound effects to the lecturer through WhatsApp and obtained feedback. She ensured that all members of the group received her feedback. The lecturer showed us examples of former students' projects, explaining their strengths and weaknesses. She explained the most important elements of the documentary film, focusing more on photography, lighting, directing angles but always urging us to be create.

Student 6**:**

The lecturer was actually collaborating with us rather than lecturing to us. This was a very unique approach which some of the other lecturers had never used.

Q4: What did you do when you needed help in dealing with technology related to digital video?

Student 4**:**

When we face problems, we try to solve it on our own, and always resort to YouTube to learn the skills.

Student 5**:**

I was not very experienced, especially in digital imaging. Through frequent discussions with peers and the lecturer I was able to shoot from angles, which resulted in improving the quality of my work. I learnt that I can replace the wide shots with narrow shots and to focus on the features of the speakers or actors.

Student 6**:**

I learned to use some of the editing software such as Pinnacle Studio 16 Ultimate and Magix Movie Edit Pro 2013 Plus through YouTube. I learned a lot about montage as well as how to use sound effects and deal with them in a montage and adjust the rhythm with the image accurately. YouTube can be considered as a rich source, especially for acquiring skills during projects.

Student 2**:**

We resorted to YouTube to learn skills ….how to deal with new programmes and learn how to use new equipment. I also learnt a lot from professionals in the field. Usually, the programmes are related to montage, sound and graphics.

Student 6**:**

Initially I did not know how to add noise to images to create a mood. So I discussed the problem with the lecturer about who provided valuable assistance. I also used the YouTube.

Q5. What motivated you and your group of students to produce the digital videos?

Student 5**:**

We feel that all group members are responsible for the final product and therefore we put in a great deal of effort. This motivation must have come from the desire to not let team mates down.

Student 6**:**

Moreover, we spent more time researching our individual sections of the video making process. It was also fun. The nature of the activity must have motivated us.

Student 1**:**

It was a very different experience altogether. It was different from what we did last year as we were only involved in lab projects. Although the video project was challenging we found the technology engaging. The lecturers and the team members were committed which encouraged us to keep at it and ensured that the project was successful.

Student 4**:**

There was a strong sense of responsibility. We were inspired by the team, the lecturer and other experts in the field.

Q6. When you worked with digital video technology, did you collaborate? If so, how did it work? What was your role in this group?

Student 2**:**

Yes, we cooperated fully, in everything ….in photography, acting, directing, editing. We respected each other, overcame some misunderstandings, divided the roles between us, and saw to it that the project did not fail. This was a herculean task.

Student 1**:**

Teamwork in video projects is absolutely vital. I think it is difficult to produce a high-quality video without a team….a team working as one cohesive unit. But at the same time understanding and consensus was essential which created a collective encouraging environment.

Student 6**:**

We cooperated not only during the project but also before that…I mean from the planning stage when ideas and opinions were formed. We made sure that everyone had the same vision and mission.

Student 5**:**

There was some disagreement as a few members had different views on ideas. However, mutual discussions helped in settling the issue. Even if we disagreed we wanted to hear everyone's voice….we asked members to justify the rationale for their views. If they were able to logically explain that their ideas were appropriate we would accept it. However, we also consulted with the lecturer before we applied new concepts.

Student 3**:**

Yes, the dialogue between team members at the beginning allowed us to learn more from each other, and to understand the skills possessed by each individual in the group. This helped in the assigning of different roles for different individuals.

Student 4**:**

I guess that's in everyone's interest to cooperate in the video project because teamwork calls for everyone to complement the other. When I lacked certain skills, for example in the use

of software for editing, I would ask a peer to help me out. The objective was to achieve a common goal.

Q7. What were the factors that had enhanced student's levels of engagement when producing DVs?

Student 6**:**

We shared a common language and vision which helped in creating a congenial atmosphere in which we could create the video. As the tasks were interesting and carried out in a relaxed manner, there was an increased level of engagement.

Student 5**:**

Good team work was the key factor which enhanced student engagement in the project.

Student 3**:**

Although the tasks were challenging, the convergence of ideas from different members helped us overcome the problems, especially in editing and searching for appropriate sound effects. This increased our engagement in the project. Moreover, it was fun which also encouraged us.

Student 4**:**

In the short film that we were involved in, the script required us to create a scenario in which we had to set fire to an object and show a rescue operation. We had to communicate with firefighters and offer them our ideas. This was fun and increased our engagement in the project in an unprecedented way.

Student 1**:**

The very idea of working as a team, sharing ideas and contributing towards the success of a project instilled confidence in us. As the confidence grew so did our engagement with the project.

Q8. Were you willing to accept and use the comments of your colleagues to make changes to the project in general and video product in particular?

Student 1**:**

Yes, we welcomed the opinions and suggestions of all, but we met to discuss the ideas before we accepted them.

Student 2**:**

Yes, certainly …we accepted the views of colleagues, which undoubtedly resulted in the creation of a quality video.

Student 3**:**

When we send the videos we get different reactions from colleagues via WhatsApp. We collate these views, hold brainstorming sessions, come up with perspectives and used the best idea or suggestion for making modifications to the project.

Student 5**:**

We exchanged views on our projects using WhatsApp. We benefited a lot from those discussions, and also spent a great deal of time to criticize the work of colleagues and encourage each other, and we accepted the final outcomes.

Student 6**:**

I was not happy with some of the opinions of colleagues, but I tried to get as many opinions as possible from other members before making critical comments. We also sought the help of professionals before deciding on certain aspects of the project.

Q9. How has peer learning increased your level of engagement when producing DVs?

Student 5**:**

Yes, collaborating with peers helped me to really get involved in the project. I was able to learn some skills from my partners in the group especially in the closing montage. Learning from the partner is quite different from learning from the lecturer. Even the language we use is different. We were very casual.

Student 6**:**

We were helping everyone in the group to carry out the tasks assigned to an individual and to the team as a whole. We learnt from each other as our goal was to complete the project on time and successfully. We reviewed our work and made changes.

Student 3**:**

The process of evaluating a team mate's work gave us a better understanding of the video we made and the process it involved. We assessed our work so that we could help all individual members to improve their own work.

Student 1**:**

Learning is not limited to applying ideas in digital video at different stages of production. It also involves learning from colleagues or peer and this involves brainstorming sessions. We debated a lot about various aspects of video production and after getting to know the dimensions of the problem we were able to address them properly.

Q10. How has student-lecturer interactions increased student's level of engagement?

Student 3**:**

Certainly, the lecturer showed considerable interest in what we did. She was always there asking about the progress we made and the problems we faced during the project. The interactions helped in improving the quality of the video.

Student 5**:**

The lecturer interacted with us face to face in the college and when were out there shooting the film, she was on WhatsApp asking us about the status of the project. These interactions encouraged me.

Student 6**:**

Student-lecturer interactions were positive as the lecturer was able to critically appraise our work and provide timely feedback. The constructive criticism enhanced student engagement and helped improve the final product.

Student 2:

The relationship was free of conflict, and there was more support from the lecturer. Although I was not very dependent on her, she encouraged me.

Q11. In what ways did reflection help you to thoughtfully process digital video production?

Student 6**:**

In the previous projects, which did not involve video production, I was very loosely organised. Reflecting on the previous experience I made all efforts to organise myself very well, especially prior to the commencement of the project. I involved a lot in the planning stage. I was able to improve a lot.

Student 5**:** Prior to the project I was always thinking about how I could perform simple montage operations. I met professionals from the television station who advised me on how best I could insert video clips and audio files into movies. This was a process which involved iteration. I practiced it a lot and learnt from the mistakes. I recalled these experiences from memory during the project.

Student 3**:**

The expert feedback I received from the lecturer and the comments from professionals provided rich information which I considered when creating the video. These thoughts were lingering in my mind and came in handy during video production.

Student 4**:**

I did not realise that past experiences would help me. Previously, I lacked communication skills and did not know how to coordinate. I started assessing my weaknesses by reflecting on my past. It helped me develop the capacity to critically self-evaluate the quality of my work.

Student 2**:**

I agree. By reflecting on one's past and making self-assessments, students can become independent learners capable of regulating their own learning.

Q12. Were you able to cooperate and work with others? How? Did it benefit or hinder your work?

Student 1**:**

Yes, I was able to cooperate with the team. Initially, that was not the case. I did not want to collaborate as I was of the belief that I would be burdened with the shortfalls of other members of the team. The project helped me understand that team work and cooperation are essential for projects.

Student 2**:**

I think that cooperation depends on the rest of the members of the group, the more you know about their potential or their weakness the greater there would possibilities for collaboration. I understood from the project that if teams cooperate the quality of work can improve.

Student 3**:**

Through cooperation we were able to accomplish our goals. I lacked some skills and the team helped me overcome those difficulties. I learned a lot from this collective exercise, for example skills for filming, editing etc.

Student 5**:**

Yes I was. I know all members of the group very well. We cooperated by dividing our work. We interacted face-to-face and via mobile apps. Through division of labour we were able to process the tasks individually and as a group.

Student 6**:**

We were a team and we depended on each other. We assumed different roles and assigned tasks in order to produce the video. There was no hindrance. However, there were a few misunderstandings which we resolved amicably.

Group 3

Q1. Please express what you like in a digital video project.

Student 1**:**

This project gave me a great opportunity to practice photography professionally, especially in outdoor locations. As a team we gained a variety of experience about photography and learned new skills for creating a professional-looking video montage.

Student 2**:**

What I liked in the first place is that we were able to cohesively as a unit. I liked working outside the classroom and the outdoor location was ideal for practicing the art of film making, in using lights and different angles.

Student 3**:**

For my part, in this project I focused on changed my orientation towards digital imaging. I practiced how to use cameras, lenses and movements. I also became interested in lighting. All these were exciting and in future I would like to acquire video editing skills.

Q2. Please tell me now what you do not like about the digital video project.

Student 1**:**

For me one of the disadvantages was hooting in outdoor locales in Kuwait which is known for its arid, dry and hot climate. Despite the difficulties I found the task of creating a video on my own and along with members of my team very exhilarating.

Student 2**:**

We were not able to use the camera or use movements to its full potential. I feel that we need more professional equipment in order to make better videos. .

Student 3**:**

I did not like the lack of cooperation among some members of the team. We were able to address this issue but it consumed some of the precious time which we could have allocated for producing the video and completing the project well ahead of time.

Q3. What did the lecturer help you to learn in the digital video project?

Student 1**:**

I consider that the lecturer was a key factor which strengthened my commitment and encouraged me to make the project a success. I learnt from the lecturer how to organize my work. It was a positive experience compared to the traditional approaches that most lecturers adopt.

Student 2**:**

I was learning differently and creating a video. The lecturer used a unique approach which required less guidance.

Student 3**:**

Filming several shots of one object from different angles and subjecting the video clip for editing and composition so that it matched the script and then using sound effects required

artistic vision and skills. I would like to thank the lecturer for providing use theoretical and practical knowledge on these aspects of video production.

Student 4**:**

I was able to get instantaneous feedback. However, feedback alone was not helpful. The lecturer was able to actively engage us in the learning process.

Q 4: What did you do when you needed help in dealing with technology related to digital video?

Student 1**:**

I looked up blogs and sites on the Internet. YouTube was very helpful. Sometimes I directly ask the lecturer.

Student 2**:**

I like to learn on my own to some extent. I am content as long as I can find the right information. Most often than not I approach members of the team, on other occasions I contact the lecturer. I also know some professionals from the television and film producers' guild who helped me deal with new technologies.

Student 3**:**

I ask teammates and my friends. I also search the Internet. Then, there is the lecturer.

Student 4**:**

I always find myself going through YouTube videos to acquire skills in editing. I love to try, practice and perfect new approaches to film making. If I cannot find an answer to my questions even from members of the team, I seek professional help.

Q5. What motivated you and your group of students to produce the digital videos?

Student 1**:**

I feel motivated because I can learn and practice new skills that I may not be able to acquire through theoretical knowledge. It was a new and exciting project and involved team work.

Student 2**:**

First of all it was fun being part of a team. Secondly, I was encouraged by a lecturer to make videos. All these aspects motivated me.

Student 3**:**

I was motivated to take part in the project because student generated digital video was something that was relevant to me and the team. The project stimulated curiosity.

Student 4**:**

I was excited even further. I really loved taking part in this project and happy that I had successfully accomplished the task. The team and the lecturer motivated me.

Q6. When you worked with digital video technology, did you collaborate? If so, how did it work? What was your role in this group?

Student 1**:**

As I had mentioned earlier I had reservations about working as a team. The digital video project created a loose environment in which we were able to share ideas and work together. What I learnt from the project was to be a team member and strive for a common purpose.

Student 2**:**

As the director, I collaborated with everybody. It helped in putting together various processes that are required for making a video.

Student 4**:**

I collaborated because as the editor I wanted to break the video footage down into different acts, themes and characters. This involved team work and the cooperation of the photographer, script writer and director.

Q7. What were the factors that had enhanced student's levels of engagement when producing DVs?

Student 1**:**

As a team we were producing our own knowledge. The very fact that I had to produce a video for an on behalf of the team enhanced engagement in the project.

Student 2**:**

The lecturer had integrated the video project and actively engaged us in creating the video. The way in which the lecturer evaluated the performance of the team against a set criteria and provided feedback must have enhanced student engagement.

Student 3**:**

Creating a video as part of learning a lesson gave us the opportunity to take control of our own learning. Besides, as members of the team we were able to monitor our own progress.

Student 4**:**

I aspire to be a television producer. What I learnt during the DV project is expected to provide opportunities later on in my life. This feeling enhanced my engagement when creating the video.

Q8. Were you willing to accept and use the comments of your colleagues to make changes to the project in general and video product in particular?

Student 1**:**

I accept constructive criticism and I was surprised that most team members did provide useful feedback. Their suggestions and comments helped in modifying some portions of my work.

Student 2**:**

The views of the group, whether it was positive or negative, were helpful as it ultimately improved and raised the quality of the video product. We discussed, agreed and adjusted our work but we also sought the opinion of the lecturer.

Student 3**:**

We frankly did not disagree on this project, because we are working as one unit.

Student 4**:**

We accepted the views of each other with an open mind…. this undoubtedly was helpful in creating a good video.

Q9.How has peer learning increased your level of engagement when producing DVs?

Student 1**:**

I found talented team members who possessed a variety of skills and learnt from their experience.

Student 2**:**

Learning from team members helped to clarify ideas and develop new skills.

Student 3**:**

By working with team members, and learning from their experiences, I was able to develop new understanding of digital video projects.

Student 4**:**

When learning from my colleagues I found them approachable. The environment was comfortable as there were no power differentials between us.

Q10.How has student-lecturer interactions increased student's level of engagement?

Student 1**:**

The lecturer was responsive to our educational and emotional needs. The lecturer showed genuine interest in the project and in our success. These must have contributed to overall growth in student engagement.

Student 2**:**

Whenever we show the lecturer portions of the project she interacted with us in such a way that we were more interested and committed in what we were doing. She questioned us frequently. I had the feeling that she was trying to engage us more deeply in learning. There was no ambiguity. Everything she said was clear.

Student 3**:**

I am glad that the interactions that I had with the lecturer was positive. She was like a friend. She provided quick corrective feedback to our work.

Student 4**:**

Positive lecturer-student relationships had drawn us into the process of learning. It encouraged us to acquire skills and work hard. I believe that such relationships can improve student learning.

Q11. In what ways did reflection help you to thoughtfully process digital video production?

Student 1**:**

I was able to assess my own progress by comparing my understanding of the various tasks involved in creating the video with prior knowledge.

Student 2**:**

I reflected on my thinking by going through previously written notes and comparing them with what the different members of the team thought. This helped in making changes and creating a quality video.

Student 4**:**

By reflecting on what I had previously done in the classrooms, by going through lecture notes, by searching the Internet and comparing them with the ideas of team members I was able to revise my ideas.

Q12. Are you able to cooperate and work with others? How? Does this benefit or hinder your work?

Student 1**:**

I used to prefer working on my own. However, the project which required collective work, changed the way I started communicating and coordinating with the team. Now, I feel that I have gained a lot

Student 2:

When we were half way through the project, I started to tense out and felt that my motivation level had plummeted. However, other team mates encouraged me which in turn increased my confidence. This gave me the courage to go ahead and complete the project along with the team.

Student 3**:**

I had problems such as dividing the workload among members of the team. However, frequent meetings and mutual discussions helped in increase cooperation. I owe the success of the project to teamwork.

Student 4**:**

I was able to develop social skills. Through cooperative interaction we were able to correct some of the mistakes. We were able to organise our work in a better manner.

Appendix M Observations

Classroom 1

Venue: Basic Education College, Department of Educational Technology, Educational TV course

CLASSROOM ENVIRONMENT

1. Description of the classroom environment in which teaching and learning is taking place

Classroom space is suitable for the number of students. A total of 26 students were enrolled in this course but only 21 students (all male) were attending the class. The general atmosphere before the beginning of the lecture looked calm. It is clear that students are accustomed to each other, working together and complementing each other. There is positive interaction among students and between student groups and the lecturer.

2. Description of the technology infrastructure in the classroom

There is a computer with Internet connection beside the lecturer's chair. There is a Data Show projector installed on the classroom. There is also a white board behind the lecturer. In addition to personal computers some students are using iPad devices, cameras and smart phones.

LESSON STRUCTURE

1. Description of the overall structure of the lesson.

The lecturer begins by explaining the lesson plan which is as follows:

The lecture is divided into three parts. In the first part, each team makes a list of major problems and obstacles encountered in the video production process. They then provide a tentative conception about possible solutions to every problem. In the second part, the lecturer displays the videos produced by students or picks some scenes from their films and provides feedback and there is exchange of ideas (between students and lecturer) and suggestions. In the last part of the lecture, the lecturer discusses student work and progress in their projects and answered questions.

Note: The lecture duration is four hours with short intervals, and one lecture per week.

2. What appear to be the expected learning outcomes for the lesson? Do these learning outcomes link more with the digital video production process?

The lecturer provided opportunities for students to solve problems. The lecturer addresses the most important problems or difficulties experienced by students during the video production activity. Some of the problems were related to logic behind the idea for choosing the topic for the movie or video based on the script (the story board), the suitability of the technology or software or equipment for this type of production, as well as the locale chosen for filming. Other learning outcomes included how students developed their impressions, shared their impressions about their individual experiences, and how they developed their abilities to solve problems.

The lecturer allowed the students show clips of their films and the entire class was allowed to talk about their videos. One of the most important learning outcomes of this part was increasing students' confidence in themselves and in their abilities and identifying their main strengths and weaknesses of their work. The lecturer provided feedback which helped the students. The suggestions and comments were very critical from the lecturer and the students graciously accepted the constructive criticism and discussion on their work as well as constructive criticism skills among students and learning from the experiences of peers in skills development and avoid mistakes.

3. What is the nature of the students' participation in the lesson?

a) The level of technical expertise of students

The students had professional skills and had the ability or experience in dealing with technology, for example operating the camera and editing. It was also clear through their language used in their discussions with the lecturer and their peers about their work.

b) To what extent do students have an input into the design?

The students produced dramatic documentary short films which addressed educational and social issues. Others produced marketing adverts with attractive ideas. The lecturer was flexible and allowed the student to discuss, be creative and produce the videos at their own pace.

c) How open-ended is the task?

Tasks assigned to the students are not specified at all. The lecturer gave students the freedom to choose the ideas and topics but encouraged them to be creative. The lecturer's consent was a necessary condition before the students commenced the project. Although there were discussions between the lecturer and the students about their ideas and plans,

and the lecturer had provided some suggestions it was the students who had the right to decide. Students identified their own mistakes and learnt from them.

d) In what ways does the task demand innovative use of the digital video camera?

The lecturer actually had urged and encouraged the innovative use of digital camcorder and its accessories like lenses, filters, attention to their motions and movement, camera angles and good direction. That is because the objective of the educational TV course was to develop students' skills in production of good and creative videos. The students had used aerial filming techniques by using camera on remote-controlled aircraft.

e) How is digital video editing software used in the task?

The students were using the editing software to make the final edits after viewing the footage with the team, and deciding what shots are required and what should be omitted.

f) How will the students' final digital video production be presented? Will there be a practical use for this product (apart from assessment purposes)?

Look like there will be practical use of these videos as the students are doing this for their educational TV course. Students present them individually and in groups.

GROUPING

1. What is the organisation used by the lecturer with respect to grouping?

The lecturer divided the students into groups. Each group consisted of a team whose members participated in one video project.

2. What are the group sizes?

Each team consisted of 3 to 5 students.

3. What roles are allocated to group members?

The lecturer asks each team to write a list of the most important problems or difficulties facing them in their project. He also asked in return: their perceptions or possible solutions

to these issues. I noticed someone writing this list after consulting with team members and another student display the video through a PC (laptop) and iPad. They are again exchanging conversations and discussing their list. All the groups followed this procedure.

COMMUNICATION / INTERACTION

Comment on interactions in the classroom

There was plenty of interaction among the students and with the lecturer. This interaction was obvious to me from the start and throughout the three parts of the lecture (identifying difficulties and problems, reconceptualization, student work/answering questions). Although the lecture was long (4 hours), I did not notice any sign of boredom and apathy. Even during the break time there were group numbers sharing their ideas and conversing with their lecturer about their project plans.

PEDAGOGY

1. To what extent does the lecturer use the digital video resource to develop ideas and responses?

In this lecture the main purpose was to showcase the videos already completed. It was an opportunity to exchange experiences, information and opinions. It also gave the lecturers the opportunity to find out the students' progress and provide them with the necessary feedback. In the first lecture he had presented them with a number of good films and software programmes as examples. The main intention was to expose students to the creative works of other (former) students and stimulate creativity.

2. Description of the roles of students and the lecturer.

The lecturer was mingling with the groups, reading lists of students and listening to discussions of students about the problems and difficulties they faced in their projects. The lecturer interacted with them and participated with the students in discussions and shared ideas and gave them suggestions. In short the lecturer was playing a supportive role and facilitated learning. The students took on the role of video producers, and that of consumers.

3. Note any critical incidents relevant to the study.

1. Classroom gets louder as students *talk over* one *another* and *other* groups.

ASSIGNMENT

1. To what extent are students able to continue with their digital video activity at home/after school?

The assignments are particularly related to photography which enabled the students to continue with their project outside the classrooms. Students had the opportunity to show their product to friends or professionals, receive feedback and make changes.

2. What access do students have to the technology outside of the lesson?

The students rely on their own PCs, smart phones, iPads and camera equipment.

Classroom 2

CLASSROOM ENVIRONMENT

1. Description of the classroom environment in which teaching and learning is taking place

This lecture was held in two different places, the first part was in a television studio (as written on the hall door, is actually not a fully equipped studio so far but large compared to regular classrooms) and second place is a computer lab. The number of students in this lecture is 23 (female) out of the 26 students enrolled in the course (educational television). It is a calm atmosphere.

2. Description of the technology infrastructure in the classroom

The infrastructure at the TV studio was meagre. The highly specialised studio lighting appears to have been partially installed in the ceiling (not done yet), and there are sound systems on the walls. In addition to the studio, there is a control room separated by glass partition. There is no data show. There is only a white board or panel.

The second location is the computer lab as written on the door, containing 30 computers, data show and display panel. The students have digital cameras, personal computers, iPad and smart phones also.

LESSON STRUCTURE

1. Description of the overall structure of the lesson

The lecturer in the television studio began to clarify her plan for the lecture which consists of two parts. The first part involved showing some films and video projects produced by former students in the educational television course. The second part is devoted to answering questions and discussing the progress of students with their projects.

Since the studio was not ready, the lecturer asks the female students to go to the computer lab so as to view the collection of movies and video projects of former students. The reason for this is the lack of technology required to view these movies in the studio.

2. What appear to be the expected learning outcomes for the lesson? Do these learning outcomes link more with the digital video production process?

The lecturer expects that students will produce high-quality movies. She had showed films and video projects produced by former students in the educational television course. The intention was to students develop their ideas and build their final perceptions, reflect on what they learnt from the videos of former students, and reconceptualise or form new concepts out of the experiences. The objective was to enhance students' observation and to develop critical thinking among learners by asking them to distinguish between good and bad videos. In the second part of the lecture, there is an open dialogue and interaction between students and lecturer about their projects. The lecturer provided comments and the students were able to deconstruct the feedback during the discussions.

3. What is the nature of the students' participation in the lesson?

a) The level of technical expertise of students

As an observer, I didn't have the chance to identify the technical expertise of the students because I watched only two videos and they were really good. One was a documentary - a short film, and the other a dramatic video. The students also exchanged *criticism* in informal dialogues of the films especially related to photographic editing, and transitions between scenes. This indicated the students had reasonable technical expertise and skills in producing videos.

b) To what extent do students have an input into the design?

Through the students' questions to the lecturer, female students seemed to focus more on their ideas and the content and simultaneously worked on designing two or more videos.

They appeared to be more creative. I noticed that the lecturer had given them the opportunity to be innovative.

c) How open-ended is the task?

The tasks in the project were open but at the same time conditional. The lecturer suggested that the video idea or subject must be unusual or unconventional. The prompt feedback provide by the lecturer allowed the students the ability to make changes and edit videos. The lecturer gave the students the freedom to achieve artistic vision when processing the videos.

d) In what ways does the task demand innovative use of the digital video camera?

The lecturer urges the students to be creative and innovative in using a digital camera. The lecturer focused on different angles, camera movements in some scenes, close up and distant shots, etc. The task demands that the students increase the scenes because that gives wide spaces and multiple options in the editing process and it increases the aesthetic appeal of the images.

e) How is digital video editing software used in the task?

The lecturer gave the students full liberty to select and use programs that they deem appropriate for editing videos, and this stage of production is usually carried outside the classroom. Students did not have much experience but they were able to satisfactorily edit the videos.

f) How will the students' final digital video production be presented? Will there be a practical use for this product (apart from assessment purposes)?

Look like there will be practical use of these videos as the students are doing this for their educational TV course. Students present them individually and in groups.

GROUPING

The lecturer didn’t divide the students into groups within the classroom. I noticed that students who work in one team usually sit close to each other.

COMMUNICATION / INTERACTION

Comment on interactions in the classroom

Interaction within the classroom was lively, especially when the lecturer asked the students to comment and criticise videos presented as examples. Meanwhile, the pace of interaction increased between students and lecturer. And also when she gave the students a chance ask questions and inquiries related to their video projects.

PEDAGOGY

1. To what extent does the lecturer use the digital video resource to develop ideas and responses?

In the computer lab, the lecturer showed a collection of videos and works of former students in the educational television course. Some of this work was good and the other was too normal. The lecture gave the chance to the students to identify what's good and what's not good from this work. Students were able to develop ideas by watching and reviewing these films.

2. Description of the roles of students and the lecturer.

The lecturer facilitated meaningful discourse and allowed student to present and explain the concepts behind their videos. The lecturer allowed students to take ownership for their ideas, explain and defend their approaches. Students took on the role of video producers.

3. Note any critical incidents relevant to the study.

1. Mobile technology disruptions

ASSIGNMENT

1. To what extent are students able to continue with their digital video activity at home/after school?

Students take the digital videos home to carry out assignments and are required to submit review reports. Students were given the opportunity to show the product to others and use outsider perspectives when presenting reports.

2. What access do students have to the technology outside of the lesson?

The students rely on their own PCs, smart phones, iPads and camera equipment.

Classroom 3

CLASSROOM ENVIRONMENT

1. Description of the classroom environment in which teaching and learning is taking place

This lecture is held in the television studio which is not equipped yet. Its area is big compared with regular school halls. The studio is being used as a classroom. The number of students in this lecture is 12 (female) out of the 16 students enrolled in the course (educational television). Normal and calm atmosphere.

2. Description of the technology infrastructure in the classroom

The infrastructure at the TV studio was meagre. The highly specialised studio lighting appears to have been partially installed in the ceiling, and there are sound systems on the walls. In addition to the studio, there is a control room separated by glass partition. There is no data show. There is only a white board or panel. The students have digital cameras, personal computers, iPad and smart phones.

LESSON STRUCTURE

1. Description of the overall structure of the lesson

The lesson is unstructured and involves showing films in various stages of production. Lessons typically involved display of some video clips created by students of each team.

2. What appear to be the expected learning outcomes for the lesson? Do these learning outcomes link more with the digital video production process?

Learning outcomes are what the students will know or be able to do by taking part in the digital video project, for instance, how they use the digital video used as a tool for reflection, how they interacted and communicated ideas, how they planned video production and solved problems.

3. What is the nature of the students' participation in the lesson?

a) The level of technical expertise of students

The lecturer allowed me to watch the students' films. Some had professional skills while others were mediocre.

b) To what extent do students have an input into the design?

From the interactions in the classroom I was able to determine that students had the liberty to design their own videos, to be creative, to collaborate and complete the task at their own pace.

c) How open-ended is the task?

The lecturer did not select tasks for the students, but he gives them freedom to choose the topic and create the video. The lecturer did not only give them absolute freedom in managing and producing videos but also discover their own mistakes and learn from them.

d) In what ways does the task demand innovative use of the digital video camera?

The lecturer actually had urged and encouraged the innovative use of digital camcorder and its accessories like lenses, filters, attention to their motions and movement, camera angles and good direction. That is because the aim of the educational TV course is to develop students' skills in production of good and creative videos. The students had used aerial filming techniques by using camera on remote-controlled aircraft

e) How is digital video editing software used in the task?

For editing programs, students were given full freedom to select and use programs that they deem appropriate for them. This stage of production is usually carried out outside the classroom.

f) How will the students' final digital video production be presented? Will there be a practical use for this product (apart from assessment purposes)?

Look like there will be practical use of these videos as the students are doing this for their educational TV course. Students present them individually and in groups.

GROUPING

The lecturer didn't divide the students into groups within the classroom. I noticed that students who work in one team usually sit close to each other. They talk to each other at the appropriate times.

COMMUNICATION / INTERACTION

Comment on interactions in the classroom

The lecturer facilitated meaningful discourse and allowed student to present and explain the concepts behind their videos. The lecturer allowed students to take ownership for their ideas, explain and defend their approaches. Students took on the role of video producers.

3. Note any critical incidents relevant to the study.

Excessive cell phone usage

ASSIGNMENT

1. To what extent are students able to continue with their digital video activity at home/after school?

Students were encouraged to take the videos home, show it to other professionals and gain new ideas. The purpose of the out of-class assignment was to help restructure their thinking.

2. What access do students have to the technology outside of the lesson?

The students rely on their own PCs, smart phones, iPads and camera equipment.

Appendix N Digital Tools and Products

Digital tools:

1. Digital camera is an optical instrument or tool that produces images that can be stored in digital memory.
2. Microphones are devices that convert sound into an electrical signal.
3. Computers are devices that manipulate information, or data and have the ability to store, retrieve, and process data.

Software used in the process of video production:

1. Microsoft's Windows Movie Maker is video editing software. It is an easy-to-use powerful video creating/editing software application, designed for latest Windows7, Windows 8, Windows 10.
2. Apple's iMovie is a video editing software. It is a desktop video editing application that can turn video footages and photos into movies.
3. Animoto is a software that turns photos and video clips into professional video slideshows.
4. Route Generator is a free tool which can be imported into a video editing software to draw routes on a map and generate a movie from it.

Pixton is a digital storytelling tool for creating comics.

Appendix O Instructional Television

Course Content

Students who complete this course should be able on the one hand to:

1- Pedagogically, objectively and technically present, evaluate, and analyse video educational programmes.
2- Prepare a timeframe for students to produce an educational programme.
3- Undertake meetings and seminars to discuss how to manage the programmes selected by the students.
4- Be assigned with the task of choosing the subject and identifying the broad educational and behavioural objectives.
5- Accurately prepare the scientific subject matter.
6- Fragment the scientific subject into sections in the form of a story board.
7- Collect the educational tools appropriate for the subject of the program.
8- Train on how to formulate and put together a good scenario in the light of the educational objectives of the programme.

On the other hand, the student should be capable of:

1. Using a mobile or handheld camera to take pictures of any related topics that can be of use for the educational programme.
2. Operating efficiently the editing function and using to the best of their abilities to produce footages that have a strong and lasting impact.
3. Handling competently the character generator device.
4. Using the audio and visual effect during the recording process in order to achieve the educational objectives of the programme.

Appendix P PERMISSION FROM THE DEPARTMENT OF EDUCATIONAL TECHONOLOGY

UNIVERSITY OF Southampton
Southampton Education School

To whom it may concern

I am Faisal Almutairi and currently undergoing a PhD research programme at the School of Education, University of Southampton, under the supervision of Dr. John Woollard. The focus of my research is to investigate the use of student-generated digital videos in higher education (College of Basic Education (PAAET), Kuwait) pedagogy to enhance student engagement, reflection and learning.

Data will be collected by means of questionnaires for lecturers who teach Instructional Television module and their students at the Department of Educational Technology, followed by interviews with lecturers and students, classroom observations and focus group interviews with students.

The opinions of your staff and students of the use of student-generated digital video are important to decide how the technology can be better used in higher education institutions effectively for teaching and learning. Moreover, the research aims to know how lecturers use student-generated digital videos to support and facilitate students' reflection upon, and engagement with their own learning.

If you decide to take part, teachers [and students] will be interviewed as part of a group of individuals. The focus group interviews will be arranged at a time suitable for the whole group. The duration of the group interviews is expected to last an hour. When I have completed the study I will produce a summary of the findings which I will be more than happy to send you if you are interested. Anonymous notes will be taken during the group discussion. There will be no record of names.

There are no financial benefits but you may find the project interesting but the information we get from the study will help to increase the understanding of how the technology can be used for teaching/learning in higher education institutions. I will send the results of the study after December 2016.

Focus groups are not fully confidential or anonymous, because there will always be more than one participant during the interviews. However, participants are kindly requested to keep confidential what they see or hear during the interview sessions. As the researcher, I will anonymise data and names will not be recorded in the transcripts and the information will not be disclosed to other parties.

Your teachers' [and students'] participation in this project is entirely voluntary and they are free to withdraw at any time during the project. The data collected from you will be destroyed and names removed from all the study files

If you have a concern about any aspect of this study, you may contact the Head of Research Governance on +44 2380 595058 rgoinfo@soton.ac.uk or my supervisor: Dr John Woollard

Dr John Woollard.

J.Woollard@southampton.ac.uk

Ethics reference: 18171

Yours sincerely.

Faisal Almutairi 0096555107909

Email: Faisal.Almatairi@soton.ac.uk

I have reviewed Faisal's research and I agree to the content of this letter.

Your faithfully,

John Woollard

DR JOHN WOOLLARD

Dr. Khaled Alhajjiem

Head of Department

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