

**DIGITAL AUDIO VIDEO ASSESSMENT: SURFACE OR DEEP
LEARNING - AN INVESTIGATION**

**A THESIS SUBMITTED IN FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF
EDUCATION**

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DECLARATION

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Simon Hamm

30th November 2009

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ABSTRACT

This research aims to investigate an assertion, endorsed by a range of commentators, that multimedia teaching and learning approaches encourage learners to adopt a richer, creative and deeper level of understanding and participation within the learning environment than traditional teaching and learning methods. The thesis examines this assertion by investigating one type of multimedia activity defined (for the purposes of this research) as a digital audio video assessment (DAVA).

Data was collected using a constructivist epistemology, interpretative and naturalistic perspective using primarily a qualitative methodology. Three types of data collection methods were used to collect data from thirteen Diploma of Event Management students from William Angliss TAFE. Firstly, participants completed the Biggs Study Process Questionnaire (2001) which is a predictor of deep and surface learning preference. Each participant then engaged in a semi-structured interview that elicited participant's self-declared learning preferences and their approaches to completion of the DAVA. These data sources were then compared. Six factors that are critical in informing the way that the participants approached the DAVA emerged from the analysis of the data. Based on these findings it is concluded that the DAVA does not restrict, inhibit or negatively influence a participant's learning preference. Learners with a pre-existing, stable learning preference are likely to adopt a learning approach that is consistent with their preference. Participants that have a learning preference that is less stable (more flexible) may adopt either a surface or deep approach depending on the specific task, activity or assessment.

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CHAPTER 1 INTRODUCTION

The purpose of this Masters thesis is to test the assertion which is endorsed by a range of commentators (see for example, Ohler, 2009; Weis, Benmayor, O’Leary & Eynon, 2002; Woodward & Nanlohy 2004) that multimedia teaching and learning approaches encourage learners towards a richer, creative and deeper level of understanding and participation within the learning environment than traditional teaching and learning methods. The thesis will examine this assertion by investigating one type of multimedia activity defined as a digital audio video assessment (DAVA). It is not the intention of this Masters research to cover the large and varied field of multimedia in education; rather it will examine one particular aspect of it.

Thesis Terms, Words and Their Meaning

Before launching into this investigation of DAVAs and their relationship with deep and surface learning preferences an explanation is required to define my terminology regarding key terms and their meaning. The language relating to learning preferences styles, learner motivation, motives and strategies, intrinsic and extrinsic factors are used differently for different purposes by writers in this field (Coffield, Moseley, Hall, & Ecclestone 2004). In order for me to navigate my way through this complex and at times label laden field, I will adopt the following method to assist the reader in understanding my approach to this thesis.

Terms such as *motive and motivation* are used interchangeably. Both I believe, relate to possible decisions or choices based around reasons for doing something. Biggs uses motives in his questionnaire and I have extended that meaning to include learner motivation. Both words have the same meaning (Oxford Thesaurus of English, 2006, p.574). Three key terms that are central, in my view, to an understanding of the learner and their behaviour are learner *preference, style and strategy*. I have adopted Smith and Dalton's (2005) explanation of these terms to guide my understanding and discussion for the thesis. *Learner preference* means exactly that – a preference (liking, proclivity, fondness, or predilection for) to choose something. Examples of learner preference within the teaching and learning context may involve a learner preferring a particular method of teaching (Smith & Dalton, 2005). This approach could be prescriptive driven (facts and figures to learn) or it may be a group activity that requires a more interactive and collaborative relationship. *Learner style* reflects the way that information, knowledge and skills are acquired over time based on a tried, tested and comfortable manner adopted by the learner.

Learner strategy is used to describe a type of behaviour. This refers to a learner acting on a particular preference – whether it involves a deep or surface strategy. Learner strategy is an indicator and outcome of motives/motivation of the learner. Terms such as *behaviour* (performance, operation or conduct) revolve around attitudinal and motivational circumstances. Intrinsic factors, concerns those ingredients that relate to the individual. They are personal and central within the individual. They also come before (in order of learner higher order thinking/relating) to extrinsic factors. Extrinsic factors can at times be beyond the control or ability of the learner to change (in a positive way).

Importantly for this thesis I have chosen to describe these key terms in a sequential manner – that is, how I think the learner organises themselves when undertaking or being involve within the learning context. That means that in my understanding of this research, intrinsic factors come before extrinsic ones, which come before learner motives/motivation which is before learner strategy. The end point is the learning outcome. Whether these terms have a firm, logical or sound basis for interpretation depends on how one interprets the complex, diversified and extensive literature on this subject. Further discussion of this subject and the issues relating to it are taken up in Chapter 2.

For the purposes of this research DAVAs are similar to digital story telling in that DAVA use similar tools (software and hardware) to compile a product that has images, sound and text into the one digital file that can be manipulated according to the requirements of the activity. The terminology used to label this activity in this research will be DAVA. DAVAs do tell a story in a digital format but I have chosen to focus the DAVA meaning to reflect a teaching and learning context based around a TAFE. This is to avoid a possible confusion or reference to a method that has its origins in the schools system. Importantly the use of the term DAVA, for this research, as opposed to a multimedia activity, digital story or similar process, is meant to highlight the relationship between the learner, the assessment criteria and the learner's situational environment. All three components are unique to this research and therefore the appellation of DAVA is meant to reflect this individuality. Indeed DAVA, as a term, is not found in the literature associated with the amalgam of multimedia teaching and learning activities. Multimedia pioneers in the field of digital storytelling such as Prensky (1996, 2009a, 2009b), Ohler (2006) and Barrett (2004, 2005, 2006) stress the importance of the media content which should include, as was noted earlier, digital images, sound and text. I have followed this style and have added the word assessment to indicate that this activity,

whilst the intent is to foster creativity and imagination, it is still an assessment based within a prescriptive based curriculum.

The setting is a Technical and Further Education Institution in Melbourne (William Angliss TAFE Institute of Technology TAFE) within a nationally endorsed competency delivery process. In this case an assessment task involving the use of a multimedia format to produce a DAVA was set. The DAVA was to be based around the topic of occupational health and safety procedures in a workplace. This multimedia activity was chosen because of a number of factors. First the technology and space was available and supported within William Angliss. Secondly, there was an intent and motivation from the teaching staff and Program Managers to introduce this activity as a strategy to encourage students to adopt different learning methods and skills that reflected external social and industry use of these technologies. Thirdly, the DAVA vehicle was considered by teachers within the Events subject, as a beneficial activity to examine and describe the OH&S environment instead of the more common text based assignments, reports and tests. Training based around OH&S issues within the workplace has over the last five years in Victoria, become focused on a digital platform that involves images, video and audio that is internet linked (WorkSafe Victoria, 2009). This teaching and learning approach by industry was an important motivator to create a similar assessment product within William Angliss. Lastly, the OH&S assessment was chosen because it represents such an important element within the Event Management profession. Risk, danger and public liability are all factors that are not only central to the understanding of the Events subject but are viewed as being non-negotiable when including topics to be assessed (Van Der Wagen, 2007).

Some of the arguments promoted by supporters such as Prensky (1996, 2009a, 2009b), Ohler (2006) and Barrett (2004, 2005, 2006) of the use of multimedia tools (the internet, software and hardware applications) in education are that these; reflect the current and future technological direction of the learner's world; are more stimulating and productive than traditional methods of teaching and learning; better prepares the learner into the world of work which incorporates many of the multimedia tools used by learners in the learning setting (Hung & Khine, 2006). In Australia, at federal and state levels, governments have invested in technology to support the activities within the learning environment. The impressive amounts of investment in technology spent by government, is according to supporters of multimedia use, vindication of this type of approach (Pegg, Reading & Williams, 2007). Detractors of this view, note the problems associated with pursuing such a technologically based strategy include; delays in technology delivery; lack of service support and training; and incompatibility with current systems learner needs and the content setting (Pegg, Reading & Williams, 2007).

DATA COLLECTION METHOD

Three types of data collection methods were used. First was the use of the Biggs Study Process Questionnaire (2001), followed by semi-structured interviews and lastly the discussion of the DAVA. Thirteen Diploma of Event Management students completed the Biggs learning preference/style inventory, were interviewed regarding their experiences involving the DAVA, and the outcomes of their work were analysed for evidence of surface and/or deep learning.

Biggs Revised two-factor Study Process Questionnaire; R-SPQ-2F

Respondents were asked to complete the Revised two-factor Study Process Questionnaire; R-SPQ-2F (Biggs questionnaire), that examines surface and deep approaches to learning (see Appendix 1) which is a well established and respected model in the field of learning style inventories (Biggs, 1987a; Biggs, Kember & Leung, 2001). This questionnaire evaluates learning preferences of students through responses to twenty questions answered through a five-point likert scale using choices from *never or only rarely*, to *always or almost always*. Refer to Chapter 3 for more detail. Ten questions relate to favouring a surface approach and ten questions relate to a deep preference. The Revised two-factor Study Process Questionnaire; R-SPQ-2F represents an extensive development over thirty years of what Biggs has labeled the ‘Study Process Questionnaire’ (SPQ). Over this period Biggs made ongoing changes and refinements to the questionnaire. This questionnaire has been used extensively in schools and universities (Biggs, 1987a; 1987b, 1987c). The SPQ is a derivative of an earlier questionnaire that investigated behavioural factors related to information processing (Biggs, 1976). The Revised two-factor Study Process Questionnaire; R-SPQ-2F used for this research has fewer questions than earlier examples (43 questions reduced to twenty) and has narrowed the focus towards questions that examine motivation and strategy behaviour within the existing twenty questions that cover deep and surface approaches to learning. This Biggs says has resulted in a “simple questionnaire which teachers can use to evaluate their own teaching and the learning approaches of their students”, (Biggs et.al. 2001, p.133).

The Biggs survey was used for a number of reasons. First it suited my own thinking in relation to the use of the terms and method used that examines surface and deep approaches to

learning. It has been my educational philosophy and practice to try and direct learners from one type of strategy (surface) towards what I consider to be a more rewarding and beneficial outcome (deep). This, I have maintained, will in the long term, serve the learner better in dealing with the external world of work. Employers require graduates to have skills and habits that exhibit qualities such as enquiring and reflective minds, coupled with the ability to think analytically and creatively. Commentators such as Robinson (2001, 2009) discuss the importance in attending to problems relating to rigid, unimaginative and overly bureaucratic education systems which he believes produces school and post secondary students that lack the skills and tools to deal with a dynamic and changing world of work.

Secondly the survey was used because it is well known and used across a broad range of educational environments (schools to universities).

The survey is designed to target areas of preference by the respondents with regard to their learning habits and strategies. This is useful because the survey's terminology relates closely with the definition given to the respondents before they attempted the survey of some of the characteristics of a surface or deep learner.

Thirdly, the survey acts as a quantitative comparison with the interviews and the DAVA outcomes. Although only thirteen surveys were done, the use of the Biggs questionnaire (because of its reliability and use by other researchers) assists in grounding the interviews to a more non-specific context. Because the interviews are highly specific (as they relate to one particular product – the DAVA), the Biggs survey was a useful way of investigating the overall, holistic, and individual learning preferences. This I felt was an important consideration especially when trying to understand what was happening intrinsically and

extrinsically with the learner. I also believed that using the Biggs survey would assist me in understanding the respondents more productively instead of just relying on one method (the interviews) to make conclusions as to the results of all the data collected. This would prove to be an important consideration when comparing and evaluating across three data sets – the survey, the interview and the DAVA results.

Participant Interviews

Semi-structured interviews were conducted and analysed with the thirteen participants. Participants were asked a number of open and closed questions (see Appendix 2) that were designed to elicit information regarding characteristics or behaviour that suggest a preference for a particular learning style (surface/deep). Out of a total of ten questions, six specifically were related to preferred learning styles. The remaining four concerned the participants' involvement with the DAVA.

DAVA Questions and Data

Four of the questions discussed in the interview were specifically targeted at the DAVA. These questions sought information about the DAVA experience and what might be suggested as possible determinants of this exercise. The format and structure of the interviews into two distinct parts (six questions concerning preferred learning styles and four relating to the DAVA) was a deliberate strategy to try and understand two main questions. Firstly, what aspects, behaviour, conditions, attitudes and other factors were influencing the learners participation with the DAVA. Secondly, how does this relate to the thesis topic? By

separating the interview into two parts helped to analyse these elements, discussed earlier, in a way that would focus the attention on the process occurring between the learner and the educational setting. This was important when applying the Biggs model of *presage, process and product* (Biggs et al. 2001) that is presented later.

The methodology used in the research is consistent with a constructivist, interpretive paradigm.

Analysis of the data via two theoretical frameworks

Analysis of the data is conducted through two theoretical frameworks. First, by drawing on three fields of literature that are consistent with the research topic, and secondly through the notions of presage, process and product proposed by Biggs (2001)

The three fields of literature that are used to inform the research are; learning styles; assessment in Vocational Education and Training (VET); and technology in education. These three fields are linked by the way that they function in the learning setting. They have differing degrees of influence on the learner at different stages of the teaching and learning process and ultimately affect the outcomes of the teaching and learning activity. In the case of this Masters thesis it is the outcome of the DAV activity and its impact on the thirteen learners that is scrutinised. The three areas of influence; learning styles, assessment in VET and technology in education are represented in Figure 1.

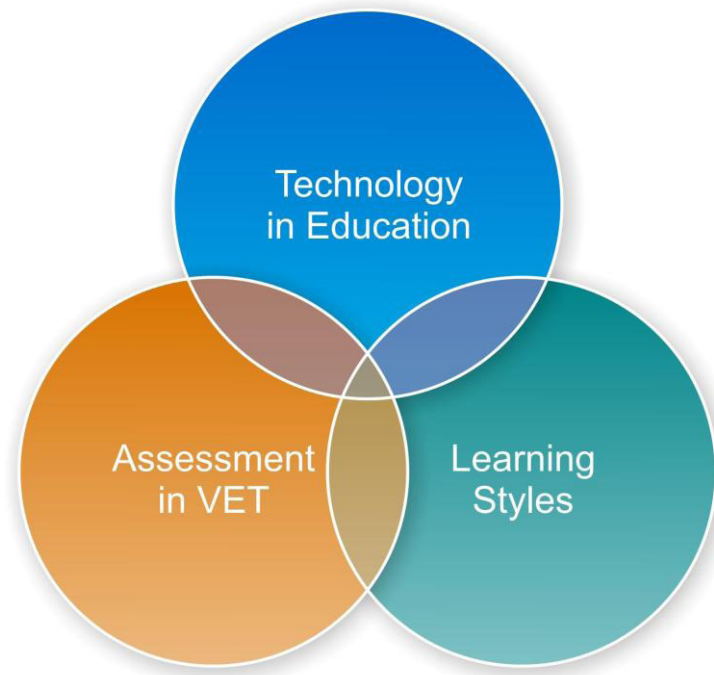


Figure 1: Three fields of observation model

In order to test the thesis topic, three areas of scrutiny will be provided. First, analysis of the interviews with the thirteen participants. In the interviews, students were asked a number of open and closed questions (see Appendix 2). Secondly an analysis of the results of the Biggs questionnaire - The Revised two-factor Study Process Questionnaire; R-SPQ-2F, that examines surface and deep approaches to learning (see Appendix 1). This questionnaire evaluates learning approaches by students involving twenty questions – ten that relate to favouring a surface approach and ten that relate to a deep preference. A Likert scale using five choices from *never or only rarely*, to *always or almost always* are listed. Thirdly an analysis of the participants comments of their involvement with the DAVA. By providing these three data collection sites it is possible to apply a useful method of analysis to this thesis.

The second theoretical framework to inform this research is the *presage, process, product model* (3P model) described by Biggs (2001). Presage relates to those factors concerned with characteristics that the student brings to the learning environment (prior knowledge, ability

and preferred approaches to learning) and the teaching context (objectives, assessment, climate/ethos, teaching and institutional procedures). Process is concerned with learning-focused activities and ongoing approaches to learning. The product stage deals with the learning outcomes (whether the content involves quantitative facts, skills or is of a qualitative nature). Refer to Figure 5 in Chapter 2.

Application of the Biggs model highlights the importance of understanding the relationship between the learner and their environment as containing a number of important and closely linked features. For the practitioner, the context within which they teach is built on many variables. Variables such as the preferred learning style of the learner, the teacher skill and knowledge, the type of assessment used and the institutional support and expertise are crucial. If any of these factors are not understood and negotiated, the learning outcome will be affected, usually in an unfavorable way. Therefore when examining multimedia approaches to teaching and learning because the traditional teaching and learning context has changed (different tools, different technology), a different set of strategies and methods need to be applied that require different skills, knowledge and experience.

As this thesis will show, in the case of the DAVA as an example of the use of multimedia in teaching and learning, claims that multimedia encourages deep learning are not supported by the data.

In addition to contributing to contemporary discussions about the use of multimedia in education it is also the aim to inform my own and other teaching practitioners regarding the context and relationship we have with learners. This thesis also, by way of inquiry, asks questions about the nature of learning, how do students learn and what does this communicate

to the teaching practitioner? These familiar questions (it can be argued) are at the centre of the teaching and learning process. These questions are also at the heart of the research for this Masters. As a teaching practitioner within the VET environment, my interest in areas of teaching approach and methods are continually being tested. Whether the context relates to students, my fellow colleagues, the institute where I work, or external policies and procedures, the overarching theme for me always returns to; how can I create a learning environment that stimulates and develops students within a competency based curriculum? Importantly, even though William Angliss TAFE has a competency based curriculum students are graded in their units. This is significant because it concerns learner motivation and strategic attitudes and behaviour when participating in assessment tasks. This relationship between motivation and strategic planning is an important consideration for the participants in this research and, (as will be shown), is a characteristic of the deep and surface learning preference located within the data.

It is not the intention of this Masters to infer or state that one particular learning style or strategy adopted by learners is better or the ideal. Rather, I am interested in evaluating whether it is possible to alter or direct a students learning towards a positive outcome within the demands of the teaching and learning context. My intention is not to apply positive or negative connotations or value laden judgments to the nature of learning style preferences, but to analyse and reflect upon the relationship between the student and their learning environment.

As will be discussed in the literature review, the DAVA has its supporters and detractors (see for example, Bauerlein, 2008; Ohler, 2009; Prensky, 2009a, 2009b). Based on the literature reviewed here, the supporters, however, seem to be in the majority. A digital audio video

(DAVA) is an activity that utilises both hardware and software. The hardware required is a computer, headphones to record dialogue, a digital camera, and a storage device (USB/CD/DVD). The software needed are Microsoft PhotoStory, the internet, and access to background music.

Importantly for this Masters, the supporters of the use of DAVAs maintain that the nature of this activity is a powerful motivator for learners to be involved in (Barrett, 2004; 2005). Terms used by DAVA enthusiasts to describe the effect on the learner include, creativity, reflection, deeper understanding, literacy improvement and artistic quality. They describe how the DAVA utilises not only digital technology, but also more traditional components such as literacy skills. Students have to compose a script based on the assessment criteria and then record their dialogue to match the photographs uploaded into PhotoStory. The power of the DAVA, according to its supporters, is that it allows a level of depth and creativity not found in more traditional assessment tasks such as written assignments, reports, tests or exams (Hung, & Khine, 2006). One argument for its use is that the DAVA is a product that incorporates the use of digital technology that is contemporary (Dominick, 2009). It not only combines the modern with the traditional, but it appeals to a wide spread of age groups (Sadik, 2008). This also suggests a level of technological simplicity, allowing its acceptance and use across a range of teaching and learning disciplines (Martin, & Madigan, 2006).

In this Masters research, students were required to create a DAVA base around a training tool for new staff that explained occupational health and safety (OH&S) aspects in the workplace. Students were asked to take photographs of their own workplaces which related to OH&S. They then uploaded the pictures into PhotoStory. Time was then spent reflecting on the photos in order to compose a script that would match the photos portrayed. Students included

approximately ten to twenty photos. The DAVAs running time was from two to ten minutes depending on the effort and skills of the students. Once the students were satisfied with their script they added background music. For the students this was one of the enjoyable parts of the activity. The personalities and interests of the students were expressed in their choice of music. The DAVA was an individual assessment task. An important consideration in relation to technology constraints was the file size of the end product. With such rich, dense digital memory being used, a number of the DAVAs were in the range of eight to ten megabytes of memory. This would prove to be problematic for some students when accessing either the TAFE's computer network or their homes system. The DAVA process outlined above can be illustrated as follows;

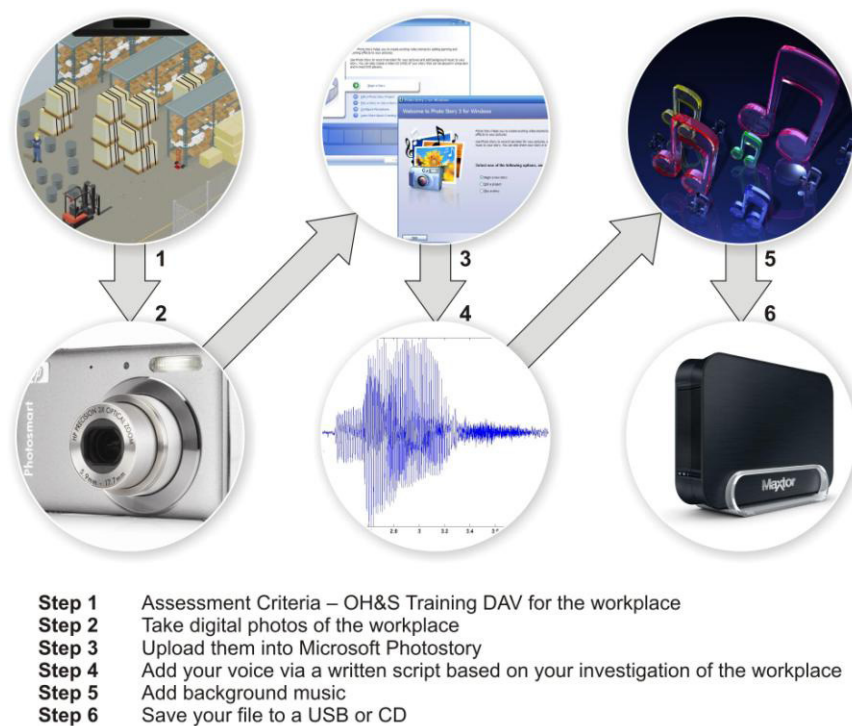


Figure 2: DAVA Process

Thesis Structure.

The purpose of Chapter Two is to survey the literature based around the three main fields discussed earlier. These are, learning styles, assessment in VET and technology in education. Emphasis for review is also placed on three important elements of this research, the deep and surface learning style inventory as presented by Biggs (Biggs, 1987a, 1987b), the inclusion of the *presage, process* product model (Biggs, 2001) and the use of DAVAs in education. This chapter highlights the extensive body of research covered on the topic of learning styles, assessment and technology in education in general. It also notes the lack of literature relating to the VET sector with regard to the three fields discussed earlier. A key feature of this chapter is the relationship within the literature surveyed of the role multimedia plays in education.

Chapter Three outlines the research design for the Masters. The chapter discusses the theoretical position taken and the structure of the method used. The chapter covers the use of Crotty's (1998) description when defining the type of theoretical approach to be applied to the research topic (constructivist paradigm, Interpretivist theory with surveys, semi-structured interviews and analysis of outcomes). The research method involved, thirteen student interviews with students enrolled in a Diploma of Event Management at William Angliss TAFE, Melbourne. These interviews were recorded and then summarised. The importance of this chapter is based on its use of the Crotty description and the way the information collected in the interviews and questionnaire is interpreted. It defines not only my view on the way I see my learners functioning within the learning context but also within the parameters of the research aim of testing an assertion regarding multimedia use in education.

The purpose of Chapter Four is to provide an overview of the thirteen students interviewed. This Chapter helps set the scene by describing the background of each student and helps place them within the context of the research.

Chapter Five concerns the analysis of the data from the Biggs Questionnaire and participant interviews. The results of this analysis are used in Chapter Six to address the questions that are raised by this thesis. The analysis challenges the assertion that DAVAs promote deep learning. Further to this six characteristics that are likely to shape a student's response to DAVAs in terms of their learning approach emerge. The purpose of Chapter Seven is to theorise on the findings revealed in Chapter Six. This is achieved by developing a model that aims to represent the relationships between the characteristics of the learner (intrinsic factors), the learning environment, and factors beyond the learning environment (extrinsic factors). This model is used to reveal implications for teachers and learners.

CHAPTER 2 LITERATURE SURVEY

INTRODUCTION

As a VET teaching practitioner within the TAFE environment, I am interested in discovering how and why students approach learning within a competency based teaching and learning framework. The more information I have regarding the way students engage in learning, whether it is an assessment task, group work or self directed learning, the better prepared I am to assist in those learning tasks. Not all students are the same and teaching strategies should reflect those differences, given the constraints and requirements of a competency based training environment.

This Master's research examines the belief that it is beholden on the teacher to understand student approaches to learning and to be aware of the many and varied theoretical studies conducted in this field. Armed with an underpinning of the major work in this area, a teaching practitioner should have the pedagogical confidence to set realistic learning goals for students that reflect the student's own learning styles.

As a starting point for my own understanding of the literature for this Masters, was to construct a diagram that portrays the areas that will be reviewed in this chapter. Importantly this diagram will be an ongoing developing theme throughout the Masters and will help explain not only what was investigated and analysed, but at a later stage, assist in describing a model that encompasses the overall context of the research.

The following diagram represents the three areas that are discussed in the literature review. By portraying the literature review in this particular manner, emphasis is placed on the importance of the way in which all three circles overlap. Within the centre of the Venn diagram, all three circles impact on a number of core activities the student is involved with. How the student learns, what the student learns and how successful the outcome for both the student and the teacher are being undertaken. This process can be viewed as a large melting pot of ideas, pedagogical theory, teaching and learning experience and knowledge, and personal perceptions and interactions (or lack of interaction) of the student. Further discussion and explanation of this model, with relation to the topic, will be covered in various chapters of the Masters.

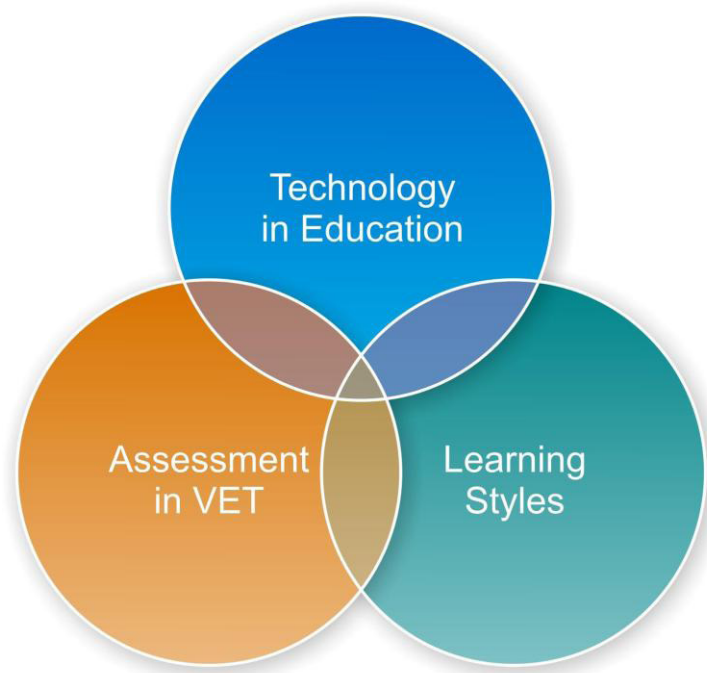


Figure 3: The Three Fields of Observation

The literature surveyed for *Digital Audio Video Assessment; Surface or Deep Learning; An Investigation* examines three key areas that relate to the title. First an overview of the literature relating to student learning styles within the VET setting will be reviewed. As this

Master's relies on a particular classification of learning style (surface and deep) to examine student interaction with a technology based assessment task, greater attention will be focused on studies relating to deep and surface learning styles (Biggs 1987a; Biggs 1999; Biggs, Kember & Leung 2001). Secondly, as this Masters research takes place within a Melbourne city TAFE, an examination of literature relating to assessment types and strategies within VET will be reviewed.. The students participating in this project are enrolled in a TAFE Diploma course that is of eighteen months duration. The curriculum framework is structured around competency based teaching and learning.

Finally literature relating to technology use in VET, and more specifically, student experiences with a DAVA, will be also examined. Critics as well as proponents of using technology in the classroom will be considered. Central to the differences in areas are a number of considerations; the importance of the learning context; the learners characteristics; the teacher's knowledge and experience; the technical support and training by the relevant IT staff; and the suitability and purpose of the particular technology used in the learning environment.

LEARNING STYLES

The literature on learning styles is extensive, and confusing. In their study Coffield, Moseley, Hall, & Ecclestone (2004) examined over seventy different types of learning styles. The authors note that the popularity, continued development and reliance on the use of learning styles have not diminished. They maintain that the complexity and practicality of learning styles as a tool to assist practitioners and learners should be carefully negotiated against issues and claims of stereotyping and labeling learners into fixed patterns and readily 'identifiable' learning traits. Indeed the very term 'learning style' is seen differently by researchers, teaching practitioners and policy strategists alike (Smith & Dalton 2005a). Perhaps then from

the VET context from which this Masters research is focused, the description given by Smith and Dalton (2005a, p.5) will be sufficient and clear in what learning styles are supposed to mean;

Most simply conceived, learning style is the typical way an individual likes to go about learning.

The study of learning styles has also had a long history as part of the pedagogical practice. Kolb (1984) traces this historical development to an era that was heavily concentrated on uncovering the psychological workings of the individual in order to better understand and relate to this person within defined contexts. Whilst the study of the individual is not an endeavour placed solely in the last century, work done by cognitive scientists provided a different and more measurable way of identifying the complexity of the individual (Lefrancois, 2000). This has certainly carried through to the end of the 1900s and beyond into the education and learning environment. Gagne', Briggs & Wager (1988, p.6) in their book on the *Principles of Instructional Design* discuss the '*conditions of human learning*' and the importance of identifying the learner as the central player before creating the environment within which the learner will engage. Therefore what we see as part of the rich and diversified study of the cognitive individual within the psychological and sociological fields between the early and middle part of the twentieth century is a further extrapolation of this work into the area of learning styles. These two research fields (psychology and sociology) added greatly to the understanding and development of scientific methods and analysis directed towards the processes of how an individual thinks and relates to their external environment. This scientifically based foundation has provided valuable research that was then applied (with realistic adaptations) to other fields such as education. The literature regarding learning styles

can best be analysed by segmenting it into a number of categories that reflect the particular authors method in describing a specific learning style. It will also help to cover much of the field devoted to the study of learning styles. These categories are based on what Sadler-Smith and Smith (2004) call, the three important distinctions surrounding the learner. These variations are; learning style; learning preference; and learning strategies. All three need to be considered when reflecting on who the learner is and how they might interact in the learning environment. This explanation is based on work carried out by Curry (1983 cited in Smith & Dalton, 2005a) and the three layer onion ring model of learning style.

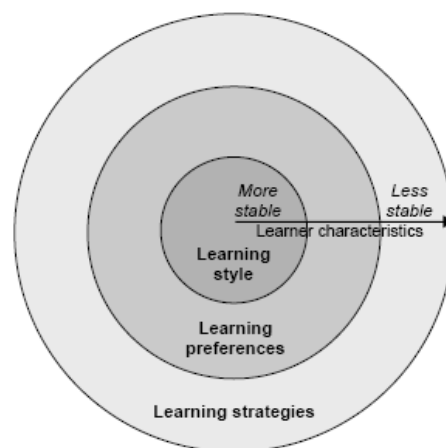


Figure 4; Curry's three layer onion model of learning styles

Smith & Dalton (2005a) (discussing the work by Sadler-Smith (1996)), separates the learning style, preference and strategy by viewing all three as progressive steps towards moving through a learning task or environment to a conclusion. The learning style reflects the intrinsic, habitual way a learner acquires information, skills and knowledge. The learning preference is the bias towards a distinct teaching or learning method that is appropriate to the learner. The learning strategy is the particular method or approach a learner uses to negotiate a learning activity or process. This Smith & Dalton (2005a) explains will differ depending on the situation within which the learner is part of.

Of particular importance in the field of learning styles, are a number of well known and debated studies that are at the forefront of this research. Coffield et al. (2004) assist in analysing the vastness in the literature by dividing the various studies, theories and methods into five distinct categories within which to place the major contributors to the learning styles arena. First there are the constitutionally based researchers such where the learning style model represents a fixed state. For example, Dunn & Dunn (Dunn & Griggs 2003), and Gregorc (1985) portray this as being indicative of learners that can be classified as being within the VAKT model (visual, auditory, kinaesthetic or tactile). Gregorc (2009) has as a central construct the Mind Styles Model which contains four particular learning or mind styles of an individual; concrete sequential, abstract sequential, abstract random and concrete random. Both these researchers have focused their work within the school environment.

Secondly there is the group of learning styles that Coffield et al. (2004) places within the cognitive realm of thinking, organising, acting and reflecting. Riding & Rayner's (1998) work on cognitive styles and learning forms the basis of the, *Cognitive Styles Analysis* model, that contrasts the holistic approach by individuals to learning with the analytical style. Witkin (1977), an earlier researcher within the field of cognitive styles is also important in helping to analyse the learner as being field dependent or field independent within the learning context. Whether or not the learner can function in isolation from surrounding influences or whether they are field dependent and holistic and therefore needed to see the bigger picture in order to have meaning, forms the basis of Witkin's model.

Thirdly there are the more commercially used learning style models that interpret the learner as being stable, and predictable. This family of learning styles examines concepts of

individual motivation for learning (Apter 2001) and personality types based on a taxonomy of sixteen types (Myers et al. 1999). Apter seeks to understand the individual from the four domains of experience (means-ends, rules, transactions and relationships), and the interplay of individual motivation. This context Apter maintains is particularly based on experience and can lead to what the author labels as reversal theory, meaning that given the particular situation, the individual will adapt to suit. Myers-Briggs interprets the individual as being stable and predictable. Myers-Briggs asserts that their extensive type indicator allows for greater understanding of the individual and thus is helpful in determining strategies for improvement, growth and development. This model has been extensively used commercially by employers and human resource managers to; understand their employees; assist in choosing the right employee and; develop training and educational pathways for individuals and groups within organisations.

Fourthly there is the group of learning styles that Coffield et al. (2004, p.21) classify as being flexibly stable learning preferences. Contributors to this group include Allison & Hayes (1996), Honey & Mumford (1992) and Kolb (1999). Allison and Hayes work involves a Cognitive Style Inventory that focuses on the adult with reference to whether there is a bias towards intuition or analysis when learning. Allison and Hayes maintain that both these attributes can function either separately or in conjunction with each other depending on the context. Having an understanding of this relationship, Allison and Hayes contend, can assist teachers and employers to strategically plan the learner's development. Honey & Mumford's Learning Styles Questionnaire (1992) is based around a model similar in content to Kolb's four stage cycle of learning (concrete, reflective, abstract and active experimentation). Honey & Mumford (1992) interpret learners as being somewhere in a four stage cycle - activist, reflector, theorist and pragmatist. They stress the importance of a learner's attitudes and

behaviours in determining their particular learning style. Kolb (1999) devised the four learning style preferences which he labeled accommodator, assimilator, diverger and converger. Both the Honey & Mumford and Kolb learning style models have been applied extensively within the Australian educational environment. In VET Kolb has found a great deal of acceptance by practitioners coming to terms with different approaches to teaching and learning (Smith & Dalton, 2005b).

Lastly and more importantly (because of the use of the Biggs learning style model within this Masters research) is the group of learning styles that target strategies and approaches to learning based around information and learning processes. Leading researchers in this area include Entwistle (1981), Vermunt (1996, 1998), Marton & Saljo (1976a, 1976b) and Biggs (1987a, 1999, 2001). The work done by Marton and Saljo in the 1970s (1976a, 1976b) was groundbreaking when understanding some of the processes that occur when students undertake a learning task. Essential to this understanding is the importance of the role of the learning strategy adopted by the student when confronted with learning materials. Marton and Saljo (1976a, 1976b) labeled this approach as deep- level and surface-level processing. Marton and Saljo argued that in order to extract greater meaning from a learning task, students will invariably apply a deep approach, rather than a surface approach to the activity.

Whilst having differing structures and organisational approaches to the topic, researchers such as Biggs (1987a, 1999, 2001), Entwistle (1981), Marton and Saljo (1976a, 1976b) and Schmeck (1988), have a common purpose in differentiating between a learner and their particular style. Indeed Ramsden puts the deep versus surface debate simply by stating that deep learning is more about understanding rather than the surface memorizing approach (Ramsden, 1988).

Writers such as Biggs have conducted several studies in this area investigating undergraduates and how they process information (1991, 1999, 2001). Work initiated by Biggs has also been replicated by others such as Mimirinis & Bhattacharya (2007) and Wilding & Andrews (2006). This learning style model has been extensively applied in the higher education sector to analyse and measure student approaches to learning. The overall intention with these studies is to try and analyse learner behaviour and develop strategies that encourage or assist learners to engage in deeper levels of involvement with their studies. This, the writers maintain, is essential when considering that the learning that the students are undertaking requires higher order cognitive reasoning and understanding.

Learners are also more likely to adopt a flexible approach when applying a particular learning strategy (deep or surface) to a given task or activity. This flexibility can relate to issues of an intrinsic or extrinsic nature for the learner. Factors can be as obvious as the difficulty and worth of the task as they perceive it.

Writers such as Vermunt (1996, 1998) stress the need to understand the learning context, both pre and present when investigating learners. Vermunt (1996, 1998) maintains that student learning is affected by external and internal sources and these lead to learners adopting a learning style based around four possible types; an undirected; a reproduction directed; a meaning directed and an application directed learning style (1998,p.150). Vermunt's model of learning is interesting in that it ties quite closely with Biggs and others that describe learners as not having a fixed, predetermined or static learning style rather adopting a learning strategy to suit the learning context.

The majority of the literature using the deep versus surface approach by learners favours learners moving from a surface (superficial, rote learning, dependent, memorizing, single layered understanding) towards a deeper, more complex learning approach, with greater understanding, increased analytical skills, a higher level of deduction and reasoning abilities and an increased sense of control and independence. The veracity of this position is discussed in Chapter 6.

Key characteristics of the deep and surface position that is located in the literature (Barrett, 2004; Jarvis, 2004; Rodrigue, Leithwood, Bascia & Mcadie, 2006; Mayer, 2001; Stahl,1999) can be summarized as follows;

To classify or assume one to be a deep learner, the learner;

- Delve into the subject matter presented to them and not just skim over the topic. It is important that the learner asks why not just how.
- Is someone who is motivated to thoroughly research the task in order to satisfy their own levels of curiosity and interest.
- Understands that knowledge acquisition takes time and effort – but the rewards are justified
- Is confident and informed because they have spent the time and attention on the task or topic. This feeling gives them not only a sense of clarity but also empowerment.
- Tries to spend as much time as they can on tasks or topics even those that are non-assessable.

To classify or assume one to be a surface learner, the learner;

- Is comfortable doing just enough to complete the topic or task.
- Prefers not to spend too much time or effort on a task.

- Is someone who is satisfied in having a general or superficial understanding of a topic or task.
- Learns by trying to memorize information and then regurgitate this information at a later time in order to pass the assessment or task. They sometimes are comfortable with rote learning, as this method assists them in reinforcing information.
- Views information gathering as more valuable than developing understanding through acquiring knowledge based on research and in-depth study.
- Tends to spend a greater amount of time only on those topics or tasks that they enjoy or which are assessable.

In the current research the Biggs model of deep and surface learning is used to inform the data collected from the student interviews as a way of verifying the validity of the findings. The choice of the Biggs as a model was made as it has been used extensively in the teaching and learning context (Mimirinis & Bhattacharya, 2007). Secondly it is model that resonates with me in relation to the terms deep and surface. Resonates because the intention and method used by Biggs appeals to my own teaching pedagogy. This involves guiding my students towards a learning strategy that adopts strategies that correlate with the surface/deep approach Thirdly Biggs' work has been based on earlier highly influential and respected study.

For Biggs the research done by Marton and Saljo (1975a, 1975b) was perhaps a starting point or precursor to further investigation along similar lines of enquiry relating to the deep and surface learning approach by students. Central to Biggs' inquiry and explanation into factors relating to student learning approaches (strategies) was his three part pathway describing the pre, during and post events that a student deals with when participating in course work. The

following is an adaptation of his “3 P’ model of teaching and learning” (Biggs et al. 2001, p.136).

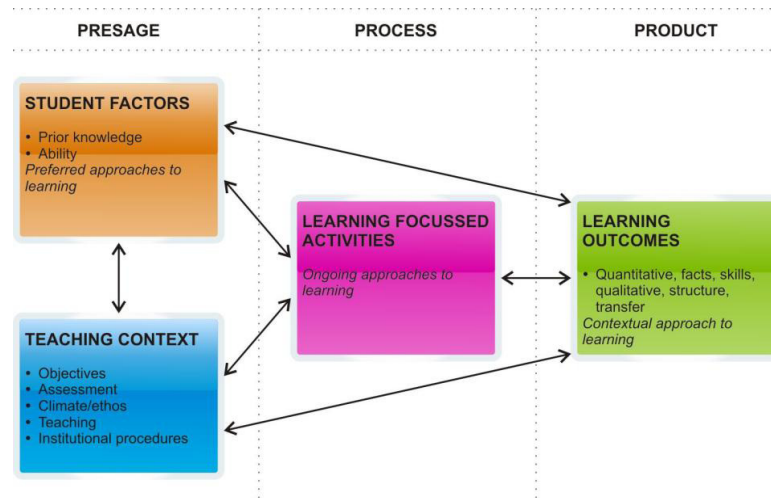


Figure 5: Biggs 3 P’ model of teaching and learning

This three part construct is useful to compare with my own findings of thirteen participants. The four contextual boxes (student factors, teaching context, learning focused activities and learning outcomes) described in the Biggs model above, impact on the final product produced by the learner. In the current research, which assesses the outcomes for learners involved with the DAVA, the participants have described the various factors that have either had a positive or negative impact on their interaction with the DAVA. Similarities with the Biggs model are present, and will be discussed further when the emerging themes based on the participant stories have been analysed. Although learners will negotiate the assessment task reflected by their own learning style and assessment strategy, the teaching context and finally the understanding of the activity and the process to be applied, it is the goal to end up with a ‘product’ that is satisfactory to both the learner and the assessor (the teacher).

As a teaching practitioner it is important to assist learners to gain as much understanding and knowledge about their course work as feasibly possible. This for me has meant trying to direct the learner to move from a superficial understanding of the material to a more complex and complete understanding. Consider work done in the U.S. by Laird, Shoup & Kuh, (2005) that examined the results of figures from the *National Survey of Student Engagement* over five years (2000-2004). This study claimed that there are significant personal and professional advantages for students that adopted a deep approach to study and learning. Using the Biggs model helps to compare against the qualitative data collected. Central to this research is the interface between learning styles and assessment as depicted in Figure 5, and it is the literature on assessment that is reviewed in the next section.

ASSESSMENT IN VET

Assessment in VET is melded to the framework of a competency based curriculum (Smith 1999). Whilst the curriculum is set and prescriptive, the assessment method is not and can vary between VET providers. Indeed Stevenson (2007) maintains that there is evidence that training packages (sets of competency standards) based on industry standards should not be viewed as curriculum but as training outlines that are then adapted by training providers into learning that can be applied within a training and learning environment.

VET itself is broad, complex and is located within different training environments (Goozee, 2001). All VET Registered Training Organisations provide training that is based on work and to a pre-determined, nationally endorsed set of units (ANTA, 2001). Training providers, it can be argued, vary in the experience, skills, and knowledge of their teaching staff. It can also be assumed that if there are a large number of different training organisations, delivering to

learners from different socio-economic, cultural, and age backgrounds, the training delivery methods, tools and quality will diverge (Darwin 2007). The internal setting of the training could be a classroom, lecture theatre, informal space or where the work is being done. How well equipped and suitable that location is for the training purposes will impact on the effectiveness of the training and on the relationship between the trainer and the learner.

This is also the case when assessment strategies are added to the setting. Therefore even though there is a nationally endorsed set of training competencies, variations and differing methods of delivery type and quality would seem likely to exist within states and across the nation itself (Boud & Hawke, 2003).

The question of what measure should be applied to the learner when deciding whether or not competency in a unit of the training package has been achieved is also problematic (Gillis & Griffin, 2005). Changes to the structure and delivery of competency based training over a number of years has brought with it assessment that reflect changes within society and work in general (Anderson, 2005). A key term in this strategic direction is the notion of flexibility (Myers & Blom, 2001). The ability to change quickly and seamlessly in response to changes in work and economic conditions and competition have meant that VET as a provider of important training to current and future workers must also react flexibly (Smith & Blake, 2005). This policy has been targeted by both the federal and state governments. It has also meant that government funding has been tied closely to, or favoured those organisations that are seen as leaders in meeting the challenge of an uncertain and at times turbulent economic environment.

When considering the importance of assessment in VET as a tool to define the state of the learner in being competent or not competent a range of assessment tools are used. First there are paper and non-paper assessments. Tests, reports, quizzes, written assignments and other similar traditional methods are used. These assessments can also be individual or group work. The literature supports the notion that VET learners prefer working in groups, the practical rather than the theoretical, the oral to the written (Smith & Dalton, 2005a; 2005b). Non-paper based assessment is ubiquitous and expected as a tool for teaching and learning. Online learning, computer based assessment and training are central pillars in any training organisations ability to mirror what society and work use to communicate with (Booth, Clayton, Hartcher, Hungar, Hyde & Wilson, 2003). This is also viewed as a positive training outcome by providers for learners in order to expand their knowledge and skills in a competitive labour market.

Review of the literature on assessment in VET also includes research on the characteristics of what a VET learner is (Smith & Dalton 2005b). Assessment, it can be argued, should be designed around the learner's preferred learning style and background. Warner, Christie and Choy (1998) noted that VET learners' characteristics showed a preference for non-textual presentations, group work and oral discussions. The literature also describes VET learners as preferring hands-on activities, the visual over the verbal/textual, the practical rather than the theoretical (Grace, 2001; Simons, Harris & Smith, 2006). Some studies highlight the VET learner as being less self-directed and more dependent on the teacher/instructor (Cornford, 2000). Other studies have cautioned on generalizing on what characterises a VET learner, especially noting that VET learners cover a wide range of vocations, industries, skills and ages (Simons & Smith, 2008). The 'one size fits all' definition of the VET learner should not be applied in this analysis (Brennan, 2003).

Assessment in VET is not only concerned with the learner and their particular needs and requirements, it also involves the role of the teaching practitioner and their affect on the relationship when discussing assessment. Literature on VET practitioners is illuminating in that it also assists in understanding the context of the learning environment. There is an argument for supporting the notion that VET practitioners suit their teaching and training methods to accommodate the learner, rather than have the learner falling into step with the dictates and style of the teacher/facilitator (Mitchell, Chappell, Bateman, & Roy, 2005). A key feature of the debate concerning training, assessment and learner readiness for work is also leveled at the teaching practitioner and their expertise, qualifications and pedagogical knowledge.

Studies conducted examining the level of skills and qualifications of teachers/trainers within VET highlight the inadequacies within the VET system even though there is enormous depth and experience of teaching staff based on years spent in the classroom and the training workplace (Smith & Blake, 2006). Many of these studies focus on the basic teaching qualification required to start teaching – the Certificate IV in Training and Assessment and whether this qualification has the matching theoretical and pedagogical depth to overlay the more practical aspects of the role (Simons, Harris & Smith, 2006; Robertson, 2008)

The final addition to the tri-circle Venn diagram is the topic of technology in education. Through the interface of learning styles, assessment in VET is added the area of technology in education. This section of the literature examines the role of technology in education and more specifically the use of DAVs.

TECHNOLOGY IN EDUCATION

For this Masters research, it is not the intention to conduct an overview of the role and history of technology in education. Rather what will be examined are the particular features, affects and outcomes of a singular type of technology use in the classroom and the impact of this on the learner. The use of a multimedia, digital technology will be investigated – in this case the use of digital audio videos as learning and assessment tool in the VET sector (DAVA).

Technology use in education is commonly portrayed as a strategy to encourage, motivate and develop both teaching practitioners and learners. Indeed in *Telling tales on technology* (2002, p.3) Selwyn notes that it can “be taken for granted that the use of technology in education is a ‘good thing’”. Pegg, Reading and Williams (2007) in their report *Partnerships in ICT Learning Study* which looks at technology in schools suggests that there is still some way to go before some type of balance is found between what is required and what is practical.

Digital Audio Videos

Digital audio videos are a teaching and learning tool employed to assist, and encourage the learner across a broad range of curriculum contexts. Digital audio videos are a multimedia package that combines a number of software programs enabling the contribution of the learner’s digital photos and images, voice and selected music to enhance a particular activity, assessment or other set task (see for example Tosh, Light, Penny, Fleming & Heywood, 2005; Zubizarreta, 2004). The rationale for using this particular learning tool can be linked to a number of fundamental educational issues that have impacted on the existing learning setting. Some of these issues relate to the powerful impact of digital technology in teaching and

learning (Mitchell, Chappell, Bateman & Roy, 2005); issues of learner motivation and concentration in the classroom, (Polesel, Davies & Teese, 2004); the lack of skills in areas of literacy and numeracy standards, (Ohler, 2006); and the mismatch between what is taught and what is demanded by employers on leaving the educational setting (Tae-Hwa Jung et al. 2004; Smith & Dalton, 2005a, 2005b).

The implementation of digital audio videos is one application that has been used to help assist learners in a wide range of skills training and competency based curriculum (Karmel & Stanwick, 2002). In contrast to the use of digital audio videos as a tool to help learners express themselves in a non-competitive and non-threatening environment (for example using the digital story telling method), digital audio videos are now being utilised across many different teaching and learning environments. For example, digital audio videos are used for complex assessment tasks and as a method to plan, implement and monitor learner motivation, engagement and skill development.

Much of the literature reviewed for this Masters is positive about the use of digital audio videos as a teaching and learning tool. Whether this reflected the increasing reliance and acceptance of technology as a teaching and learning strategy had yet to be comprehensively investigated. There is also a general agreement amongst the positive school that there was a noticeable improvement in the learning outcomes for the students who used it (Barrett, 2004, 2005, 2006; Ohler, 2006; Prensky, 1998; Zubizarreta, 2004).

Writers such as Kajder & Swenson (2004) highlight the extensive work carried out in schools where the acceptance of technology has helped liberate the creative and dynamic potential of learners, thus allowing for greater developmental and artistic work to be achieved. This, the

authors maintain; engenders in learners a confidence and motivation that was not previously exhibited in past curriculum strategies used, and helps foster a more thoughtful and deeper examination of the task set. Supporters of digital audio videos such as Sadik, (2008) in his study of the use of digital storytelling within an Egyptian educational setting, stress the layered nature of this teaching and learning tool and its ability to incorporate an almost remedial benefit for learners struggling in areas such as reading, writing, aural skills. The added use of visuals and music create a rich, personal and unique body of work as part of their overall assessment (Jay, 2005). A number of writers link the positive power of digital storytelling with the age old art of storytelling itself. Fields and Diaz (2008, p.7) maintain that,

at their most fundamental level, the stories that others tell and that we tell ourselves help us connect our own individual identities, who we have been, who we are, and who we want to be.

As a tool for learners to be able to communicate in an authentic and contemporary setting, digital audio videos are according to Weis, Benmayor, O’Leary and Eynon (2002, p.153),

transforming our classrooms from spaces of delivery to spaces of active inquiry and authorship.

Research done by Ohler (2009) is helpful because it has a strong practical aspect to it. He maintains that digital audio videos assist teaching practitioners to lead learners towards a more creative, deeper, critical level of thinking and application of ideas and projects. Ohler describes this mix of different elements of art, oral, written and digital technologies being brought together within the context of the DAVA as rich and meaningful for the learner.

Ohler represents this blending of different elements in the learning process in the following diagram.



Figure 6: Ohler 2009 The DAOW of digital story telling

This representation has been helpful for me because it also assists me in examining the three main areas of investigation for the literature review – learning styles, assessment in VET and technology in education. It will also prove to be crucial to developing my own model based on the conclusion discussed in Chapter 6. The DAOW described by Ohler (2009) and his use of terminology to describe the ingredients of a digital story has been helpful for me because it contains those elements that comprised my own construction of the DAVA. The oral part of the DAOW deals with the spoken word (based on a script composed by the student) relating to the assessment topic; written refers to the text content that students have to compose around the topic; art concerns the artistic composition and arrangement of photos used to support the dialogue; the digital aspect relates to the medium used – digital photos contained with a software program (Microsoft Photo Story). Ohler’s DAOW is helpful because it reflects my own understanding and approach to DAVAs and it’s individual components. Importantly is the visual representation of the linking of the four elements into a whole. I have applied this

approach of the links or connectedness of key factors and characteristics of the relationship between DAVAs and learning preferences (deep and surface) throughout this Masters.

Alternately there are those that see digital audio videos in a more skeptical light. They hold the view that its use is just another teaching and learning distraction along with a whole host of populist and technology influenced strategies (Jones, Valdez, Nowakowski & Rasmussen, 1994). These writers maintain that for the learner, digital audio videos do not address complex, ingrained and even dysfunctional learning habits developed over a long period in the schooling system (Moon, 2006). Critics of digital audio videos posit that using such technology merely panders to commercial and media driven fads in the wider community, and the impost of both internal and external pressure on learning organisations to modernise their courses and subjects with the current digital paradigm. Bauerlein (2006) in his research of the decline in literacy and numeracy standards is critical of the dependency on electronic educational tools as a means to engaging the learner. Bauerlein maintains that what is really being learned is not the content so much, but the use of technology. The technology, he argues, has more of the learners focus rather than the topic or content embedded within the learning tool.

Finally there are writers who fall between the two views already identified (Brennan, McFadden & Law, 2001; de Souza, Fardon & Phillips, 2002; MacDonald, 2006). These writers claim that the direction to be taken in education involves a mix of approaches. This strategy would contain a stronger emphasis on basic skills such as reading and writing within the subjects taught and the use of certain technology tools to reinforce and complement the materials being delivered. Writers, such as Woodward & Nanlohy (2004), whilst being supportive of the technology, caution users against loosing sight of the original goal of the

activity, which is to help develop the learner from being a passive participant towards taking greater ownership and to foster an environment characterised by creativity and originality.

CONCLUSION

This literature survey examined the research topic by investigating three areas of interest that are central to the understanding of this Masters thesis. First it examines the importance of student learning styles as a crucial factor between the students own intrinsic behaviour relating to learning with extrinsic factors that affect learner outcomes. As shown in this literature review that there is some debate over meaning and relevance of the links between terms described as being *styles, preferences and strategies*. As a way of maneuvering through this at times complex and confusing array of classifications, the Smith and Dalton (2005a) explanation is helpful because it also is framed within the VET context. This particular context resonates with my own research regarding learners and their unique characteristics. Crucially for myself, (being a teacher in VET), the understanding of how each of the three terms can be seen to operate in and around the learner is important; important because it justifies the introduction of the DAVA within the learning space. This literature review highlighted the extensive body of knowledge surrounding learning styles. The debate concerning which method or theory best supports a learner is still unproven. Coffield et. al. (2004) have shown that many of the theories have merit and practical application as others have faded in popularity. Which one particular style is better will depend on a number of contextual, environmental and political considerations. For this Masters research the Biggs learning style model was chosen because it suited those three conditions that were key determinants for undertaking this research – the contextual, environmental and political considerations. Not only was the Biggs learning inventory clear and robust in content, it also

offered a vocabulary that reflected the teaching and learning situation i.e. it was trying to authenticate a learners experiences within a VET focused environment.

For teaching practitioners having an understanding of student learning styles is important given the teaching and learning environment. Secondly, as this Masters is within the environment of VET (in this case TAFE), the role that assessment plays is also an important consideration when examining learner participation. Finally, as this Masters investigates the use of a DAVA as an assessment task, the use of technology in education was also surveyed. These three topics help set the scene and the direction that this investigation will take.

CHAPTER 3 RESEARCH DESIGN

INTRODUCTION

In Chapter Two a literature survey was presented that investigated three main topics related to the research title: learning styles; assessment in VET; and technology in education (this is labeled as; Three Fields of Observation). Importantly the literature survey discusses the use of one particular learning style inventory (deep and surface) to understand the relationship between what the students have said in the interviews with what was found in the Biggs Questionnaire. The Biggs Questionnaire is used as a benchmark to underpin the interviews and is a central feature of this Masters thesis.

The research design uses Crotty's (1998) description and explanation of four key elements of the research design to describe my own justification and approach for this Masters work. These four elements defined by Crotty (1998) consist of different stages along the research path that help position the research within a particular framework. The four elements are the research paradigm, theoretical standpoint, research methodology and research method. By examining these four parts with the research Masters overall structure, it will be shown that the particular research position that I have taken, fits the purpose and intent of the research. Table 1 places my research design within Crotty's framework and Figure 7 provides a physically different, yet faithful model to represent this relationship.

Research Paradigm	Theoretical Standpoint	Methodology	Methods Type of Data Collected
Constructivist	An interpretive, naturalistic theoretical perspective,	Mixed Qualitative and Quantitative analysis	Semi-structured interviews and a questionnaire containing twenty questions. The questionnaire used is the Biggs “Revised Study Process Questionnaire” (Biggs, 2001)

Table 1: Theoretical Structure

The use of theoretical and action models as a means of representing the research concepts provides an alternative means to understanding of the dynamics and systems at work within the teaching and learning context. Models and other diagrammatic representations of events and processes add to the overall communication and objectives of the Masters. This process is also relevant because it concerns and relates to the central research paradigm – constructivism, which Denzin and Lincoln (2005) argue is about constructing meaning out of experience.

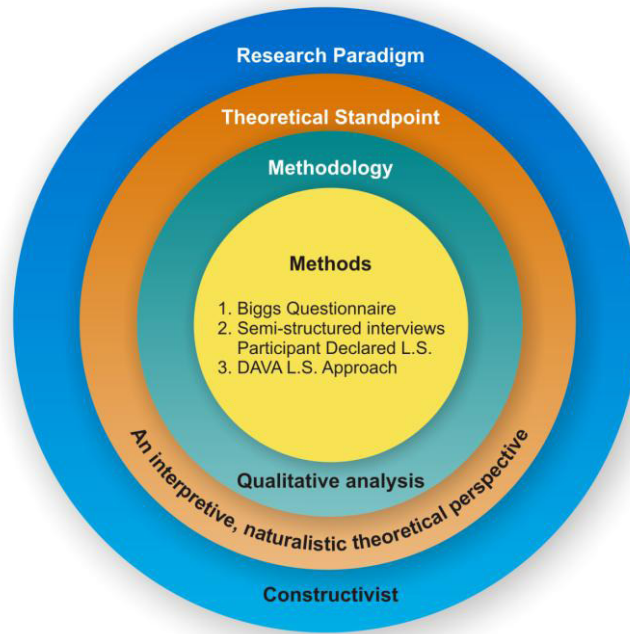


Figure 7: The Research Design Model (Note L.S. means Learning Style)

The research design model (Figure 7) shows a four ringed circle (similar to an onion). By peeling away the various layers of the circle, one is drawn to the centre where the core of the research action takes place. The core is indicative of the *how question*, in that it highlights the process by which the information was gathered – in other words it describes the physical processes using tools and documents the researcher will use to gather data. As one moves outward from the centre, further rings are added which relate to important theoretical concerns that require understanding and explanation.

The research paradigm establishes the epistemological position underpinning the research and the knowledge paradigm that the researcher has chosen. This research paradigm underpins the theoretical standpoint, methodology and methods. Adopted in this Masters, constructivism views the interpretation and understanding of knowledge as something that must be developed over time with experience and interaction to the external world. For example, a person who accepts a constructivist view of the world understands meaning or truth as something that

develops over time and therefore can change or adapt depending on the interactions and/or stimuli that the individual is exposed to. To accept a constructivist paradigm is to interpret knowledge as something that is not static nor implicitly given. Meaning and truth are plastic concepts that will differ between individuals. This, constructivism maintains, is to believe that people are not born with a set of neatly arranged morals and standards regarding the world, rather they develop these concepts and beliefs over time and with experience.

Meaning is not discovered, but constructed. In this understanding of knowledge, it is clear that different people may construct meaning in different ways, even in relation to the same phenomenon. (Crotty , 1998, p.9)

Consistent with the constructivist epistemology, the theoretical standpoint adopted here is interpretive and naturalistic. Interpretive because as a researcher I am collecting and analysing what is said by a cohort of students from William Angliss TAFE. Naturalistic, because the setting is non-contrived or foreign to the participants and reflects the intent of the research, that is, to assess learners reactions and opinions to a DAVA within their normal learning environment.

Consistent with this theoretical standpoint is a primarily qualitative methodology. However, the interpretive and naturalistic approaches do not exclude the possibility of quantitative techniques. In the current research the Biggs deep and surface learning style questionnaire is used as a point of comparison to the results of interviews that gives the research a mixed qualitative/quantitative approach. At this level, qualitative research involves an interpretive, naturalistic approach to the world. (Denzin & Lincoln 2005, p.3)

Qualitative analysis is a powerful tool with which to investigate a question, problem, assertion or to test a belief (Ary, Cheser Jacobs, Razavieh and Sorensen, 2006). It is a method that shows concern for context and meaning. It also suggests that qualitative research works best in a setting that is natural, non contrived or artificial. By being as close as possible to your research participants, without interfering, overtly or covertly influencing or manipulating them is a key aspect of the usefulness and power of qualitative analysis. Denzin and Lincoln (2005) maintain that applying the qualitative approach to the research endeavour, allows for a flexibility, empathy and sensitivity that can provide a richness and depth of information. This they suggest cannot be achieved using a quantitative approach. A qualitative methodology requires not only asking the appropriate questions, but it is also dependent on the observations, reflections and inductive reasoning of the researcher.

The final element in the Crotty framework reflects the purpose and objectives of the Masters overall structure. The methods used to collect, analyse and construct meaning from are aligned with this structure. Based on thirteen interviews with Event Management students at William Angliss TAFE, the researcher interprets conversations relating to open and closed questions concerning learner involvement with the DAVA assessment task. This qualitative approach to collecting reliable and rich data best suits this research as it helps, as Denzin & Lincoln (2005, p.3) discuss, to locate 'the observer in the world'. The power of qualitative research for the researcher is the unique relationship between them and the participants. This is what Burns calls getting a close 'insider's view of the field' (Burns, 1994, p.14).

In evaluating the assertion made by supporters and practitioners that DAVAs are helpful in changing or shifting learners from one preferred learning preference to another (surface to

deep for example) both survey and interview methods were used. The central strategy used to collect information was based on three sources of data:

- Biggs Questionnaire
- Semi-structured interviews relating to the participants and their relationship to their preferred learning style – their self-declared responses
- Semi-structured interviews that specifically targeted their experiences with the DAVA

The first stage of the data collection process involved the participants completing the Biggs “Revised Study Process Questionnaire” (Biggs, 2001), (see Appendix 1). The purpose of using the Biggs questionnaire is to assist the overall intent of the research by using multiple evidence gathering tools alongside the interview structure (see Appendix 2). The Biggs “Revised Study Process Questionnaire” was selected because it is a well established, reliable, and specifically designed to predict deep and surface preferred learning (Mimirinis & Bhattacharya, 2007). The Biggs Questionnaire consists of twenty questions using a likert scale. Ten of the twenty questions concern deep responses and ten surface. The questions also predict a learner’s motives for adopting a particular approach and their strategic decisions based on their motives. This is discussed further in Chapter 5.

The second stage of the research process involves recorded interviews with the participants. These were approximately thirty to forty five minutes in duration. The interview questions (Appendix 2) comprised five questions relating to topics of preferred learning styles and the participants background. A further five interview questions covered their experiences with the DAVA. At the start of the interviews participants were given a description of deep and surface learning style preferences. This was introduced in order to allow a greater flow of information and to concentrate the respondent on the topic instead of diverging into other

unrelated areas. Both the Biggs Questionnaire and the interviews, once summarised, were given back to the respondents for verification.

Importantly for the research design are a number of important characteristics and relationships that need to be stated in order to show the links between all three data sets and the research topic. In the Biggs survey, questions relate directly to a preferred learning style. The higher or lower the result of the likert scale the stronger the link to a deep or surface approach. These results are less open to conflict or dispute. By using the Biggs Questionnaire as a benchmark of deep and surface learning preference the interviews which are far more interpretative in nature, can then be compared. This triangulation is helpful in analysing the Masters investigation into the DAVA outcomes. This Best and Kahn (2006, p.269) says 'permits the verification of qualitative data.' This method of combining and comparing three sets of data is a characteristic of this Masters and allows the researcher to 'emphasize the strengths and minimise the weaknesses' that might exist if using only one source of data (Best & Kahn, 2006, p.269). By using the Biggs questionnaire alongside interviews, a greater opportunity exists for outcomes with richer and more meaningful results than by using a single method.

Secondly, the relationships between the three data sets are important. If the Biggs Questionnaire is designed as a predictor of a deep or surface learning preference, how do I determine from the interviews if the participant adopts a deep, surface or some other location along this scale? This is achieved by classifying and then analysing the interviews by the self-declarations of the respondents in the interview, and then by interpreting what they said directly about their experiences with the DAVA. This as Fehring (2002, p.27) notes, is acceptable and part of the research structure.

Within a constructivist paradigm the enquirer analyses the data collected using the process of induction. A researcher constructs, or reconstructs meaning in relation to the research question.

Examples of this can be shown as follows. In some cases participants were explicit in their statements. For example:

*Yer, I am a deep learner – I need to know why – I think I have always been a deep learner. **Stephanie***

Alternatively some participants inferred deep and surface preferences that reflect the characteristics of this preference. For example:

*I am a visual learner – I am not good at rote learning – I need to be creative and to try and visualise what needs to be done. **Fiona.***

For the Biggs Questionnaire the deep and surface interpretation is based on question selection that have value scores associated to them.

RESEARCH SETTING

William Angliss Institute of TAFE was the setting for this project. William Angliss is a defined Specialist Institute for Hospitality, Cooking and Tourism and is located in the heart of the City of Melbourne. It was founded in the 1940s and is a respected and well known centre for industry education and training.

RESEARCH PARTICIPANTS AND ETHICAL ISSUES

Students in Stage 2 of a three stage Diploma of Event Management at William Angliss TAFE were asked to participate in the Masters research. In total there are between eighty to a hundred students in Stage 2. As I also teach Stage 2 students, only those students not taught by me could participate. This was to ensure transparency and fairness and not to influence or manipulate in any way the teacher student relationship. Out of this number of Stage 2 students thirteen agreed to take part (eleven females and two males). Students were given a plain language statement detailing the research aims and structure (Appendix 4). They then were required to sign an ethics consent form (Appendix 3) guarantying privacy and confidentiality.

None of the thirteen participants interviewed in the study were taught by the interviewer, nor did there exist a relationship between both parties that may infer bias or place the interviewee in a subordinate or harmful position to the interviewer. Strict confidentiality of participants' identities is maintained. Aliases are used to portray the participants in the interviews. Ethics approval was given by RMIT. Consent to undertake this research was also given by William Angliss TAFE.

THE INTRODUCTION, EXPLANATION AND EVALUATION OF THE DAVA TO STUDENTS IN THE STAGE 2 EVENT MANAGEMENT CLASS

The process involved in introducing, explaining and evaluating the DAVA, occurred over a period of four weeks in the Stage 2 Diploma of Event Management. Students in four classes

spread between two teachers were given the assessment task in Week 10 of an 18 week semester. Both teachers prior to introducing the assessment, discussed and constructed the DAVA criteria sheet and marking guide that would be used to assess each students end product (refer to Appendix 5). The criteria sheet was based on the learning objectives and outcomes stipulated in the subject 'Unit of Competencies' for *Identify hazards, and assess and control safety risks – SITXOHS003A*. The marking sheet (Appendix 6) was based on the content of the criteria sheet and information discussed in the lecture and earlier tutorials. Discussion of this assessment task and its suitability involved not only the teachers directly responsible for the unit, but also at a course management level. Senior educators required that the DAVA align with all the listed prerequisites and competencies for the unit before signing off on it's introduction. The lead teacher, who had experience in the use of the software and hardware related to the DAVA, spent three training sessions, of two hours each,(with the two other teachers taking the classes) to ensure that they had the required skills and knowledge to teach the activity.

The implementation of the DAVA in class was covered in the first two weeks of the allotted four weeks given over to the DAVA – the class was two hours long. The remaining two weeks were spent creating and finishing off the activity. The class was located in a computer lab. Students had to provide their own storage device (CD, USB) for the final product to be saved on. This was then given to the teacher for marking (via the assessment criteria). During the first two weeks of the activity, students were directed to ensure that their DAVA followed closely the criteria marking sheet.

LIMITATIONS OF THE RESEARCH

This research is small in scope and does not seek to be definitively all encompassing regarding the topic, rather it offers a small window into the unique world of thirteen TAFE students and their thoughts and experiences within the TAFE classroom. This research specifically concerns students who participated in a DAVA. The data collected is limited to completion of a survey and an interview. The DAVA, which was the central product of the assessment task completed by the respondents were not examined by the researcher. Interpretations of a surface or deep approach to the DAVA are entirely dependent on the results of interviews. Further, although referred to from time to time the research does not examine, by way of interviews or other direct means the views of teachers, Information Technology staff or other William Angliss personnel.

A further limitation of this research is a lack of closer analysis of the DAVA produced by the students. Much is recorded and discussed in this thesis regarding participants' views, opinions and impressions of the DAVA experience and their own personal pathway into the Event Management course, yet, there is no analysis of their DAVA product on completion. This shortcoming in this research is a result of the desire to examine a particular part of a larger field of inquiry. I consider this a deliberate omission of an examination of the DAVAs and what they may have revealed as unfortunate yet necessary. A closer scrutiny of the DAVAs produced by the participants would, it seems, assist in further uncovering the relationships between the *Three Fields of Observation* (Figure 3) and all that they entail. Therefore, by omitting an analysis and discussion of the DAVA product, it was my intention to direct the focus of the Masters towards the participant, not to the DAVA outcome. There is no doubt, in my opinion, that a comparison of the DAVA with the interviews could have been interesting,

and revealing with regard to the overall intent of this study, but this particular area is left for another time. Time and resources made the analysis of the DAVA product a problematic exercise and inevitably I felt that it had to be put to one side at this stage.

CONCLUSION

This research does not start with a hypothesis rather it seeks to find understanding from the data collected in order to construct relevant ideas and findings resulting from interviews and surveys completed regarding whether DAVAs help learners to deep or surface learn. The research design is robust and rigorous enough to draw conclusions from a range of data sources. Chapter 4 provides a description of each participant that helps to inform the data analysis that is conducted in Chapter Five.

CHAPTER 4 PARTICIPANT STORIES

INTRODUCTION OF THE PARTICIPANTS

The following participant background summaries are based on interviews with thirteen students involved in this Masters project. All names included in this project are fictitious, and only gender corresponds to the persons name. The participant cohort consisted of eleven females and two males. Ages ranged from 20 to 25 years old. This age range is typical for students in the final stages of their course and are due to graduate at the end of the semester.

RUTH

Ruth is a 20 year old who has come to William Angliss TAFE straight from school. She has spent her school education within the public system. Based on the interview, Ruth seems to be a confident and self motivated person. She seems happy and positive with her achievements thus far and is looking forward to completing further studies (an Advance Diploma in Tourism) at the end of the year. She liked being involved with organising events for her family and friends. Her school counsellor suggested the events course at William Angliss TAFE. She also heard about William Angliss TAFE on the radio and all these factors helped her decide to do the Event Management course even though she was unsure as to where she might end up. Although Ruth achieved reasonably high academic results at school, she didn't want to go to university as she wanted a more 'hands on course' which didn't involve a great deal of theory, rather a more practical focus.

Ruth lives at home with her parents, two younger brothers and an older sister. She works casually for a nightclub assisting with the organising of events at the venue. Ruth feels that being part of the events industry has helped to give her confidence and a sense of control over what she does. She enjoys the person to person relationships that are part of her job and this is what she enjoys most being a student at William Angliss TAFE. She particularly likes the group activities and role playing assessments. Ruth finds it easy to make friends and she is part of a small group of students that socialize together.

Ruth's goals for the next three years are to work on a cruise ship either in a hospitality or tourism role. She is keen to travel overseas to gain experience and further qualifications in the area of events and tourism. Even though Ruth appears confident and goal focused, there is still uncertainty as to where her long term plans will take her. It doesn't bother her that there are no long term goals. She feels that being busy with work, study, family and friends is more than enough at the moment for her to cope with. Ruth is confident that something will "turn up" that will suit her career aspirations.

STEPHANIE

Stephanie is 20 years. She attended private schools completing Year 12, and commenced the Diploma of Event Management the following year. At the time of course selection, Stephanie's Mother, was doing a cake decorators course at William Angliss TAFE and told her about the Event Management at William Angliss TAFE. Stephanie lives at home and is very close to her family. She has a younger brother and the household reflects her Indian ancestry. All the family has close ties to a wider network of family and friends from an Indian background. Stephanie presents herself as someone who is easygoing yet confident in her

abilities and life skills. She is not afraid to ask for help from either her peers or teachers. She says her one ‘failing’ is that she tends to “burn the candle at both ends”, which equates to always “chasing sleep”.

Stephanie is involved in a number of youth help groups with the goal being to assist those that are less fortunate or that face personal or family crisis. She says this is where she gets her interest in organising events. She really enjoys putting together a mix of different people and resources in order to achieve a goal that is focused on improving the lives of young people.

JASMINE

Jasmine is a 20 year old who like Stephanie, has come straight from high school to William Angliss TAFE. She has done all her schooling in the private system. Unlike some of the other participants who are unsure as to where this course will lead them, Jasmine is genuinely interested in becoming an event manager. Her reasons for choosing William Angliss TAFE were based on a number of factors such as reputation, being located in the city and the course structure.

Jasmine also has clearly defined short and long term goals. In the short term she wants to try and get any job in the events industry no matter the pay or conditions. Jasmine believes that once she “gets her foot in the door”, she will move quickly up and pay and conditions should improve. Her long term goal is to own and run an events company specialising in fashion. She considers herself to be a realist when it comes to employment opportunities in the events industry. She believes “that persistence and hard work” will deliver the job for her. Jasmine has a brother and sister who all live at home; she has a happy home environment and doesn’t

see the need to move out. Jasmine considers herself very much like her mother, who also has had an interest in fashion and has helped her to develop many of her artistic and organisational skills. She says that she gets her tenacity and drive from her father. She currently works casually in fashion retail, which she classifies as being poorly paid, highly stressful and thankless. This is part of the reason for her to move away from the retail sales side of fashion to the event design and control side.

FIONA

Fiona is 20 years old and completed her Year 12 education in the public system. She lives and was brought up in the western suburbs of Melbourne. In the interview she seems to present as a reserved, introspective individual. Fiona is an only child and both her parents work in Melbourne. She decided to enrol in the Event Management course at William Angliss TAFE mainly because she thought it had a better range of subjects than other colleges closer to home. Fiona also thought that a city campus would offer a greater variety and activities than a suburban location. Most of her information regarding the choice of course came from the student VTAC guide.

Fiona's short term goals are to complete a Management Diploma (in this case the Events Diploma) and then to try and apply for a university degree. She was originally interested in becoming a curator with expertise in organising exhibitions, but now she is not sure. She is also interested in doing a degree in fine arts or photography. Fiona is uncertain where her future lies as far as a career is concerned but as long as she is employed and earning money, then she hopes that "things will work out alright". Currently she is working in a city hotel in reservations. She says that this is a good learning experience and doing the event management

course at William Angliss TAFE has helped her deal with her training at a hotel which has been “quite intense, but stimulating”. Her long term goal is to build on her business management skills in order to get a better, well paid job.

AMANDA

Amanda is a 19 year old who lives in the outer eastern suburbs of Melbourne. Her schooling has been in the public system and she did hospitality studies in Years 11 and 12 of school. She lives at home with her parents and a younger sister. A friend of Amanda’s who was working in event management discussed what she did and this “sounded interesting and fun”. Amanda spoke about this further with her hospitality teacher, who said that if she was interested, she might like to enroll at William Angliss TAFE, which had a good reputation.

She is currently working in an event company on a casual basis, and the owner has said that there is a possible full time position if she is interested. At this stage she is unsure how much she is willing to commit to the events job. Amanda’s short term goal, once she finishes her course, is to travel overseas. She thinks she may work for a few years and then go overseas “before I get too old.” Amanda has no long term goals yet. Although she thinks it will be in the events industry in some capacity. Amanda really enjoys the events environment and she thinks “it’s exciting and challenging.”

JESS

Jess is 19 years old and lives with her sister in inner Melbourne. She works casually for an event company that organizes motor bike events. At her work for the event company, she is

given responsibility for the rostering, ticketing and exhibitor liaison. Although Jess is only nineteen, she is mature for her age, this is apparent from her current employment role. During the interview she comes across as an independent and confident person with an easy manner and friendly personality. She went to private schools and could have gone to university, but chose TAFE instead. She said that she didn't want to spend three years doing an undergraduate degree, whereas TAFE could give her a qualification and flexibility in a shorter time frame. Also William Angliss TAFE fits in well with her work timetable. Jess has four contact days at college which leaves three days for work. As most of her motor bike races are on the weekend, this is very convenient arrangement.

Jess chose the events course at William Angliss TAFE based on advice from her school careers counsellor, her parents advice, and, from the positive feedback from past hospitality employers and colleagues regarding William Angliss TAFE' reputation. It also helped that she lives only a ten minute walk from William Angliss TAFE.

Jess's short term goals are to find full time work in an administration position in an event company. She is not interested in working full time at the current place of employment – even though she enjoys it. Her long term goal is to move and work overseas for an event company. Jess has friends who have already found work in events overseas and she is keen to pursue that path as well.

LANIE

Lanie is a 20 year old from the western suburbs of Melbourne. She lives at home with her parents, two sisters and a younger brother. Her mother does home duties and her father works

in the building trade. Her two older sisters work nearby for industrial manufacturers (one in sales the other office administration) her younger brother is in Year 12. Lanie went to the local public school and finished in Year 12. Because she has been the family organiser and also been involved in organising students events at school, her teacher suggested doing an event management course at William Angliss TAFE. Following her teachers advice, Lanie toured William Angliss TAFE during their open day and decided to enrol. Lanie says that she has enjoyed her time at William Angliss TAFE. She is a bright, happy person, who seems confident in her own abilities. She is very close to her parents and siblings and enjoys spending time with them. She has her own close network of friends and she is also part of a wider Maltese community where she is involved with organising events on a voluntary basis.

Lanies short term goal is to travel overseas once she has finished her course. "I want to travel now while I am still young. I'll worry about finding an events job when I get back." She works part time for a real estate agent which she enjoys. She is also looking around for an events administration position which will hopefully be her "first step in the door". Lanie says she lacks the confidence and experience to get a full time events position so she is quite prepared to work her way up through an events business structure. Lanies long term goal is to be a successful event organiser.

LISA

Lisa is a 19 year old who lives with her boyfriend in the eastern suburbs. She grew up and went to public schools (completed Year 12) in the eastern suburbs, and now works casually in the city as a waitress. Her boyfriend is a chef at the same restaurant. Both her parents and an

older brother work. Her older brother lives at home with his parents. Even though she is only 19 years old, she has more than four years experience in the hospitality industry.

Although Lisa appears reserved, and cautious when first being interviewed, once she relaxed she shows a bright, bubbly personality with a witty sense of humor. Lisa enjoys reading fantasy and listening to heavy metal music. She says that “on the outside I appear normal and conservative, but on the inside I have a gothic streak!”

Lisa “desperately” wants to get out of hospitality and into the Events industry. She has worked on quite a few events over the last three years and feels that she has gained both experience and knowledge of organising events. Therefore when she decided to gain a qualification in Events, she was careful to choose the course that would suit her. After investigating a number of TAFE colleges, Lisa chose William Angliss TAFE.

I guess because it sounded the most appealing of all the other ones. I went to a lot of TAFE open days and even though they were all hospitality and tourism, William Angliss TAFE seemed to me to have what I was looking for. My Mum found out for me through family and websites and friends and a school councilor and open days and I had an interview. I wanted to do something similar to hospitality and event management was new and it sounded fun. Box Hill was closer and I got into it but I still chose William Angliss TAFE. *Lisa*

Lisa’s short term goal is to find work in Events in an administrative position and then try and move up in the business to a more operational role. Her long term aspiration is to live and work overseas in the Events industry and then perhaps return to Australia after five or ten

years, depending on how much she enjoys it. She has heard reports that Australian event organisers are in demand overseas especially in Great Britain.

BEC

Bec is a 19 year old who lives in the north eastern suburbs of Melbourne at home with her parents and another sister. She attended private schools for her primary and secondary education and completed Year 12. She lives. Both her parents work. Her father is an accountant in the city and Bec's mother is a nurse in the local hospital. Her younger sister is in Year 12. Bec seems to be an easy going, relaxed individual. She remarked that perhaps she is;

a little too relaxed – I tend to be a bit slack at times, especially with my college work. I'm always behind or late with my work. I definitely don't like stressful situations. That's probably why I hate working in hospitality – too much stress.

Bec chose the Event Management Course at William Angliss TAFE because she thought it would be interesting and fun, instead of doing a hospitality course.

*I wanted to do Event Management and William Angliss TAFE was the best place to do it and my careers counselor told me about it in year 12 and I came to an open day. I also thought about La Trobe and RMIT, but I decided on William Angliss TAFE. **Bec***

Her short term goal is to travel. Currently she works casually at a call centre that conducts research for various consumer goods and services. She doesn't particularly enjoy it; "but the money is good and it is better than working in catering." She hopes to travel for at least three years before coming back to Melbourne to study at university. At this stage in her life she is unsure but thinks a tourism career is a likely choice.

*I want to go back to uni and study and then to go back to work. I think it could be tourism but at this stage I'm not sure, I'll see what happens after I come back from traveling overseas. I do enjoy the tourism side of things. **Bec***

Jake

Jake is a 23 year old who lives in a group house in St Kilda and works casually in a bar near where he lives. Originally from a small central Victorian town, he has only been in Melbourne for the last five years. Jake did his schooling in both public and private education in the country and does not have happy memories of school. He was eager to finish school and move to Melbourne. Jake does feel a sense of accomplishment finishing his apprenticeship, especially considering how hard he found his work environment. Jake is an only child. Both his parents live and work in the town he grew up in. His mother does home duties and his father works for state rail in the area.

Initially Jake came to Melbourne to do hairdressing after completed a hairdressing apprenticeship, but decided not to pursue that career in hairdressing. He did not enjoy the apprenticeship experience and felt that the long hours, low pay and stressful surroundings (not helped by an "aggressive and disagreeable owner") helped him decide to move in a completely different career direction. Jake felt that even if he found work as a fully trained

and qualified hairdresser (which he is now) he would still not improve either his future prospects of higher pay or negative feelings regarding that industry, thus the decision to enroll in an Event Management Diploma.

Jake is a mature, reserved individual who initially seems easy going and confident; during the interview, he shows examples and behaviour of someone who doubts his own capabilities and experience in life skills. He remarks that he has always; “felt a bit lost – I am searching for something; who knows where I will end up”!

Originally Jake was going to do a course in hospitality management, but he liked what he was told about events (from friends).

*I wanted to do something in a hospitality related field but wasn't sure what exactly – events looked exciting and interesting. I chose William Angliss TAFE because of its name – I heard about it in high school and later I did a trip to visit William Angliss TAFE which was fun and interesting. I thought I would be comfortable here. **Jake***

His short term goal is to find full time work in the events or hospitality industry in order to gain experience and knowledge. He is keen to travel and work overseas and believes that having the events or hospitality work experience should be of benefit when looking for work. His long term goal is to work overseas in a large chain hotel such as the Hyatt, Sofitel or Hilton chain – and preferably in the events department.

KYLIE

Kylie is a 20 year old from the western suburbs of Melbourne. She did her schooling at private schools and completed Year 12. She lives at home with her parents, two older sisters and a younger brother. Her mother works in the Events industry and her father works in the automotive industry locally. Her two sisters work in the city in retail and her brother is doing Year 12 locally. Kylie comments that her family life is a happy one and that she is very close to her mother. Because of her mother's career in Event Management, she often works with her on different types of events.

Kylie appears to be a confident, well balanced individual with an easy going nature. At 20 years of age, she exudes a mature, no nonsense attitude to life. This she puts down to living in an area where she has "seen everything". She has her own car and currently works in hospitality in the western suburbs. She says that she "didn't do all that well at school – I was too busy doing other things and I think my marks suffered."

William Angliss TAFE was not Kylie's first choice.

*To be honest it was my second choice, I put down for Vic Uni but I didn't get into the events course there so I took William Angliss TAFE. Also my mum's in the events field and I like what she does. I thought I would give it a go and if I didn't like it I could choose something else. **Kylie***

Kylie is quite definite in her plans for the future. She has no short term goals – except to work and pay bills, but her long term plans involve finding a full time job in the events industry.

SARI

Sari is a 19 year old who lives with her boyfriend in the western suburbs of Melbourne. Her parents also live in the area with Sari's younger brother. Both her parents work nearby, and her brother attends the local public high school (she also spent her school years at the same school). She moved out of home at eighteen years of age, her parents both approved and supported her decision. Sari is a very independent and confident person with a vibrant personality and happy disposition. She exudes a positive, natural personality and enjoys being socially active. Her boyfriend is an electrician who works for a medium size company in Werribee. She currently works casually at the Hotel Sofitel at Werribee Mansion as a food and beverage attendant.

Sari chose to study at William Angliss TAFE based on its reputation, advice from her school careers counselor and the subject content of the event management course. She doesn't want to stay in hospitality and so she decided on event management because it appealed to her situation at the time.

*At the time I was working as a waitress but I wanted to get a qualification but I didn't want it in hospitality because the pay and conditions are no good. So I thought that event management sounded cool and also a career counselor told me about William Angliss TAFE. I also went to an information night and I really like the content of the course. **Sari***

Her short term goal is to become a full time employee at the Hotel Sofitel in Werribee.

*I have recently got a job at Sofitel at Werribee Mansion working casually in the banquet department but I hope to try and get a full time position there. I live in Werribee so it's very handy. And over the next two years we want to buy a house and pay it off as a rental. **Sari***

Long term, she would like to buy property, continue working with the Sofitel Group and possibly work overseas with them, preferably in the events area.

*Hopefully I want to move up and work as a supervisor and buy another house with my boyfriend and then live in that one and then go overseas for awhile working in England or Scotland for Accor hotels, we'll see anyway. **Sari***

MICHAEL

Michael is a 25 year old who has moved to Melbourne from a small country town near the border of NSW in central Victoria. He has two brothers and a sister who lives and work in central Victoria. Michael has a very good relationship with parents and siblings. He went to school in both public and private schools and finished VCE (Year 12). His family is very close and he tries to see them when ever he can get away on the weekends. He also has a large social network both here in Melbourne and from his home town. Currently he works in a bar in Fitzroy, a suburb close to inner Melbourne. He also lives in a group house with three other students – which he enjoys experiencing.

He is a self motivated, hard working individual who describes himself as a person “full of ideas and projects that he wants to see made into reality.” He enjoys being with people and; “gets a real buzz out of college life – although I wish there was more student interaction on campus”. He made the move to Melbourne because he wanted a career change and was bored and restless where he was living and working. For the last five years Michael has worked in a landscaping business which has been recently affected by the drought. This (the drought), he says, was another reason to move.

Michael chose William Angliss TAFE based on his research on the Internet and advice from his teachers at school. Michael also attended an open day.

*I was happy with what I saw. I looked on the internet for courses and a teacher suggested that I have a look at William Angliss TAFE and contacted the events department and came and had a look at the open days. **Michael***

Michael has an interest in music and entertainment concerts. There used to be an annual concert in his home town every year, and this has inspired him to follow a similar career path as the event organisers involved in running the event.

*I needed a career change – I was very restless where I was - everyday was the same and so I was interested in music concerts – I was involved in helping out at music concerts in the country where I used to live and events sound like a pretty exciting industry to be in. **Michael***

Michael’s short term goal is to find work in the events industry.

*I want to establish myself in the events industry – I have a lot of ideas for music events that I would love to put into reality – I would love to put on an event in my home town – they miss out a lot, there is nothing there for the kids. **Michael***

His long term goals are to make a career organising music events and travelling.

*I want to make a living in the events industry and to be an expert at music events.
Michael*

CONCLUSION

This chapter provides an overview of each of the thirteen participants in the project. Emerging from these participant portraits is a group of learners that share a number of important characteristics that relate background information to the subject of preferred learning styles and the impact of DAVAs within the learning space. Chapter 5 will cover the initial analysis of the data from the Biggs Questionnaire and the interviews with the participants.

CHAPTER 5 INTITIAL ANALYSIS OF THE DATA

Building on Chapter 4 which provides a brief description of each participant the current, Chapter 5 details and analyses the data collected from the Biggs Questionnaire and interviews with participants. The sources of data are divided into three groupings. First the Biggs Questionnaire which is central in providing a benchmark against which learning style preferences interpreted from the interviews is compared. In this situation the interview data are analysed (using a qualitative approach) to reveal how these compare with the learning style preference predicted by the Biggs Questionnaire. This Questionnaire is used as a benchmark as it has been shown over time and in a number of different learning contexts to be a reliable and stable quantitative measure of the deep and surface learning preference (Mimirinis & Bhattacharya 2007). By highlighting the results of the Biggs Questionnaire against the findings identified in the interviews and the DAVA it is possible to declare certain key outcomes of this analysis that assist in addressing the Masters purpose of examining the role and impact of DAVAs with a VET context. These findings will be discussed later in the Chapter.

DATA SET 1 THE BIGGS QUESTIONNAIRE

The first data set used in this research is the results of the Biggs Questionnaire. Participants were asked twenty questions relating to learning preferences using a likert scale (see below).

Response Score	Question
A – 1	this item is never or only rarely true of me
B – 2	this item is sometimes true of me
C – 3	this item is true of me about half the time
D – 4	this item is frequently true of me
E - 5	this item is always or almost true of me

Table 2: Biggs Questionnaire likert scale

Ten questions are predictors of deep learning preferences and ten are predictors of surface preferences. Questions were answered by the participants in the following order.

Question #	Question Type	Question
1	Deep	I find at times studying gives me a feeling of deep personal satisfaction
2	Deep	I find that I have to do enough work on a topic so that I can form my own conclusions before I am satisfied
3	Surface	My aim is to pass the course while doing as little work as possible
4	Surface	I only study seriously what's given out in class or in the course outlines
5	Deep	I feel that virtually any topic can be highly interesting once I get into it
6	Deep	I find most new topics interesting and often spend extra time trying to obtain more information about them
7	Surface	I do not find my course very interesting so I keep my work to the minimum
8	Surface	I learn some things by rote, going over them until I know them by heart even if I do not understand them
9	Deep	I find that studying academic topics can be at times as exciting as a good novel or movie
10	Deep	I test myself on important topics until I understand them completely
11	Surface	I find I can get by in most assessments by memorising key sections rather than trying to understand them
12	Surface	I generally restrict my study to what is specifically set as I think it is unnecessary to do anything extra
13	Deep	I work hard at my studies because I find the material interesting
14	Deep	I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes
15	Surface	I find it is not helpful to study topics in depth. It confuses and waste time, when all you need is a passing acquaintance with the topics
16	Surface	I believe that lecturers shouldn't expect students to spend significant amounts of time studying material everyone knows won't be examined
17	Deep	I come to most classes with questions in mind that I want answering
18	Deep	I make a point of looking at most of the suggested readings that go with the lectures
19	Surface	I see no point in learning material which is not likely to be in the examination
20	Surface	I find the best way to pass examinations is to try to remember answers to likely questions

Table 3: Biggs Questionnaire defining the question preference as either deep or surface

For answers that were deep or surface predictors, participants would select answers that were located in the D and E end of the scale. Where participants selected a midway point, such as C, this would place them in the mid-way/non specific category. As will be discussed later, these mid-way/non specific participants (Amanda, Lanie and Jasmine) can be categorised as being deep when considering the three data sets.

The twenty questions listed earlier are consistent with the definition. When comparing the ten deep and surface questions with the terminology used in Chapter 2, there are commonalities of language. For example, the deep questions ask learners about the level and depth of their involvement with their work (preparing, researching and studying prior to classes). Whereas surface questions ask about issues of rote learning, only doing enough to get by and keeping their work load to a minimum. Compare the Biggs Questionnaire with the following deep and surface overview discussed with the students.

To summarise, deep learning is concerned with reflection, enquiry and being patient and motivated to seek out meaning by asking why and how questions. It is a learning approach that is characterised by a persistence and determination to achieve a standard of work that is of quality and depth consistent with a desire to achieve because it is personally rewarding.

In contrast, a surface learner is less concerned with meaning and more with completing work to a standard that requires the least amount of work. It is also characterised by focusing on only those tasks that are directly related to assessment. Effort is spent productively and economically. Topics that have a wider application are avoided if they are not essential in the learning process. Rote and memory of facts and figures are important if they are directly related to assessment and are seen as important tools in the learning context. Time, work and value (assessment) are carefully weighed against concepts involving motivation, effort and purpose. If it is not worth doing (value) why do it?

Importantly, the Biggs Questionnaire has two components to its structure. On one level is the characterisation of learners into deep and surface. Ten questions were categorised as being deep and ten as surface. This primary level is helpful in comparing these results to the

interviews – participants are classified as deep, surface or midway/non-specific. On a secondary level, the Biggs Questionnaire provides further meaning and analysis by applying two important distinctions to the questions. Biggs separates the questions into a motive and a strategy rationale. This allows for further understanding of the choices made by respondents when completing the questionnaire. This is beneficial because it is a practical method to understand the why and how questions relating to the respondents answers. It is also a process to examine the learner's preferred learning style before they answer questions concerning the DAVA.

Biggs (Biggs, Kember & Leung, 2001) discusses the importance of having a level of refinement and clarification within the overall questionnaire that accommodates the why and how questions of learners preferences and outcomes. Biggs is correct when he explains that the questionnaire is just not about deep and surfaces approaches or choices for learners but it is very much concerned with reasoning behind actions. Having a level of inquiry within a questionnaire that seeks to predict learner motives and strategy within a deep or surface instrument allows for greater reflection and analysis not normally available in a questionnaire quantifiable in design. Therefore the incorporation of the motive and strategy keys within the questionnaire assists the researcher to determine whether or not answering a motive question that is based around a deep or surface framework corresponds with the associated deep or surface strategy question. This refinement process gives the researcher a clearer understanding of a learner's behaviour and unique characteristics. From an operational perspective it assists in assessing the results by matching like with like, thus linking the respondent their own defined preferred learning style.

Each question in the Biggs Questionnaire was given a numerical score and category. This is then used to analyse the scores both on a single question basis and as a cumulative measure (see below).

Learning Preference	Primary Score Questions
Deep Approach	1+2+5+6+9+10+13+14+17+16
Surface Approach	3+4+7+8+11+12+15+16+19+20
Learning Motive & Strategy Attributes	Secondary Score Questions
Deep Motive	1+5+9+13+17
Deep Strategy	2+6+10+14+18
Surface Motive	3+7+11+15+19
Surface Strategy	4+8+12+16+20

Table 4: Biggs Questions divided into primary and secondary

As the Biggs Questionnaire is used in this research as a benchmarking tool against the interviews, a level of balance is achieved in the manner by which the results are analysed. Therefore the data analysis structure is not ambiguous or haphazard.

The interview data are divided into two groups.

DATA SET 2 SELF-DECLARED INTERVIEW

First the data that relate to the participants self-declared preferred learning style. This deals with how they perceive themselves as learners. Questions asked to the participants that relate to a self-declared learning preference were:

- How would you describe yourself as a learner? Explain please

- Do you classify your self as being a deep or surface learner?
- Has being involved in this assessment task had an impact on your learning habits?
- In what ways?
- Can you give me some examples?
- What type/s of assessments do you prefer and why?
- Where there any other factors (beyond William Angliss TAFE) that influenced your approach to the DAVA?

In some cases participant comments are quite explicit in indicating whether they adopted a surface or deep learning style. For example,

*Yes, I am a deep learner – I need to know why – I think that I have always been a deep learner – I don't read books, but I get a lot of information off the internet and from family and friends. **Stephanie***

*I am a visual learner – I am not good at rote learning – I need to be creative and to try and visualize what needs to be done. I am probably a deep learner – if you look at my bookshelf I have all the textbooks for the course which I have read – I must be the only one who is that keen – and I keep them, whereas my friends sell theirs as soon as the course is finished. **Fiona***

In other cases participants surface or deep learning style is inferred from comments. For example;

*I have very little patience with college work. I tend to skim over things instead of spending more time and effort. But this is what I am used to. It's part of how I learn and get through the work. **Kylie***

*I love reading and analysing things. I have to know why. The more I can find out about my study the happier and more confident I feel. **Jess***

DATA SET 3 COMPLETION OF THE DAVA

The third set of data related to the way in which each participant approached completion of the DAVA. The following questions relate to the data from the completion of the DAVA.

- How would you describe the experience of using the technology required for the DAVA?
- Do you consider yourself a confident person when it comes to technology? Please explain.
- What did you like about the DAVA assessment and why?

- What didn't you like about the DAVA assessment and why not?
- Has there been any ongoing involvement with DAVAs?

Placing a participant in one of the three preferred learning styles (deep, surface, midway) was based on their responses to the DAVA questions. Whether they categorised as deep, surface or mid-way/undecided related to their experience with the DAVA. This entailed whether they found the DAVA; enjoyable or not; found it interesting; pointless or boring; difficult, simple or complex; fun, exciting, or creative; imaginative and absorbing; superficial, trying and error laden. The more positive the experience for the participant, given the examples of terminology above, the greater the predictor of a deep approach to the DAVA. Some participants directly related that their motivation and attitude to the DAVA was based on a surface approach. Examples of participant responses to the DAVA are as follows;

*I need to go deep into the assessment in order to feel happy about doing a good job. I did this with the DAVA. I like to know what's going on.***Ruth**

My approach in doing the DAVA is basically like any other assessment – just do what is required and get it over and done with. I don't like too many complex assessments – I just do enough so that I can pass. This has helped me so far – nothing wrong with that. I know it is a very surface way of learning but it suits me
Jake

COMPARISON OF THE DATA SETS

In this section, the findings of all three data sets will be analysed. Central to this analysis will be use of Biggs Questionnaire as the benchmark against which the other two sets are compared. The three sets of data are represented below. The results of the Biggs Questionnaire, the self-declared interview and the DAVA responses place the participant with either a deep, surface or Mid-Way/Non-Specific.

Participant	Biggs Questionnaire LS Preference	Participant Declared LS	Participant LS approach to the DAVA
Ruth	Deep	Deep	Deep
Stephanie	Deep	Deep	Deep
Fiona	Deep	Deep	Deep
Jess	Deep	Deep	Deep
Lisa	Deep	Mid-Way/Non-Specific LS Preference	Deep
Sari	Deep	Mid-Way/Non-Specific LS Preference	Deep
Bec	Surface	Surface	Surface
Jake	Surface	Surface	Surface
Kylie	Surface	Surface	Surface
Michael	Surface	Deep	Deep
Amanda	Mid-Way/Non-Specific LS Preference	Deep	Deep
Lanie	Mid-Way/Non-Specific LS Preference	Mid-Way/Non-Specific LS Preference	Deep
Jasmine	Mid-Way/Non-Specific LS Preference	Surface	Surface

Table 5: Data results from the Biggs Questionnaire and interviews

First the data that showed a strong deep learning style preference will be examined.

PREDICTED DEEP FOR THE BIGGS QUESTIONNAIRE

The following table sets out the results of the Biggs Questionnaire. It assigns each of the thirteen participants a number of scores depending on what category they selected relating to a question. The higher the score (1 lowest – 5 highest) the stronger the learning style preference. In Table 6 scores are given for each individual question. Each question is also assigned whether it is deep or surface in approach. Table 7 lists cumulative scores based on six categories – deep approach, surface approach, deep motive, deep strategy, surface motive, and finally surface strategy.

Participant	Question Number & Type																			
	1D	2D	3S	4S	5D	6D	7S	8S	9D	10D	11S	12S	13D	14D	15S	16S	17D	18D	19S	20S
Ruth	4	5	1	3	4	4	1	1	5	5	1	1	5	4	1	1	5	4	1	1
Stephanie	4	5	1	3	5	4	1	1	4	5	1	1	4	4	1	2	4	4	2	2
Fiona	5	4	1	2	5	5	1	2	4	4	1	2	4	4	1	2	4	3	1	2
Jess	4	4	1	3	4	5	1	2	4	4	1	2	4	3	2	2	3	4	2	2
Lisa	4	4	1	2	5	4	1	2	4	4	2	2	4	3	1	2	3	2	2	2
Sari	4	4	1	2	4	4	1	2	4	3	2	2	4	3	1	2	3	3	2	2
Amanda	3	3	3	2	3	3	2	3	3	3	3	3	3	3	2	3	3	2	2	3
Lanie	2	3	2	3	3	3	1	3	3	3	2	3	3	3	2	3	3	2	3	3
Jasmine	2	3	3	2	3	2	5	4	3	3	2	3	3	2	5	3	2	2	3	3
Kylie	2	1	4	4	2	2	2	3	2	3	3	3	4	2	3	4	2	2	3	3
Bec	1	2	4	4	2	2	2	3	2	3	4	3	4	1	3	4	2	1	4	5
Jake	1	2	4	5	1	2	2	3	2	3	3	3	4	1	3	4	2	1	4	3
Michael	1	1	4	4	2	2	1	5	1	2	4	4	1	2	3	4	1	1	5	5

Table 6: Results of the Biggs Questionnaire – Individual Scores for the 20 Questions

Participant	Result					
	DA	SA	DM	DS	SM	SS
Ruth	45	12	23	22	5	7
Stephanie	43	15	21	22	6	9
Fiona	42	15	22	20	5	10
Jess	39	18	19	20	7	11
Lisa	37	17	20	17	7	10
Sari	36	17	19	17	7	10
Amanda	29	26	15	14	12	14
Lanie	28	25	14	14	10	15
Jasmine	25	33	13	12	18	15
Kylie	22	32	12	10	15	17
Bec	20	36	11	9	17	19
Jake	19	34	10	9	16	18
Michael	14	39	6	8	17	22

Table 7: Cumulative Results of the Biggs Questionnaire

Six of the thirteen participants were consistent with a deep learning style preference as predicted by the Biggs Questionnaire (Ruth, Stephanie, Fiona, Jess, Lisa and Sari). Questions relating to a deep approach scored in the 4-5 range. Questions relating to a surface approach scored in the 1-3 range, with 1 being more common than 3. These six participants scored well above the other seven. Sari who had the lowest total score of the deep group was still clearly separate from the next person (Amanda) who is placed in the midway/non-specific band.

For Ruth, Stephanie, Fiona, and Jess a deep approach was also found across all three data sets (as represented below). They show a consistent behaviour pattern that is defined as a deep learning style preference. When discussing their own personal belief relating to a learning

style preference in the interviews, all four stated that they could be characterised as preferring a deep approach to their learning. These four also enjoyed the DAVA.

Participant	Biggs Questionnaire LS Preference	Participant Declared LS	Participant LS approach to the DAVA
Ruth	Deep	Deep	Deep
Stephanie	Deep	Deep	Deep
Fiona	Deep	Deep	Deep
Jess	Deep	Deep	Deep

Table 8: Deep learners across all three data sets

Consistent with this deep learning preference by these four was the language they used to describe their approach to learning and their own self-assessment of their personalities. Ruth used words such as being ‘creative’ and wanting to ‘discover and go further’ in order to understand the topic.

*I prefer to work through problems, rather than just getting the teacher to fix my problems for me. You don’t learn that way – all you do is rely too much on someone else. For me the fun part is working it out myself. **Ruth***

When discussing with them in the interviews, definitions of what a deep learner was, all four self-described themselves in similar terms. These four also used words such as feeling ‘confident and motivated’ when doing class work and assessment tasks.

All enjoyed reading for pleasure and considered it important to their own personal development. Enjoying reading also made it less of a burden when studying and researching assignments at TAFE. Ruth and Fiona did most of their reading from books whereas Fiona used the internet to research and read for fun. Interestingly all four stated that they didn’t like ‘skimming’ or looking for the ‘easy option’ because they found a greater sense of

achievement by understanding through investigation and ‘going deep rather than taking a surface option’.

These four adopted an attitude which suggested an ability to think and perform confidently and productively regardless of the extrinsic distractions. Consider these comments regarding a number of aspects relating to the interview and the DAVA outcomes:

*I am definitely not a surface learner, rather more of a deep learner. **Ruth***

*Yer, I am a deep learner – I need to know why – I think that I have always been a deep learner – I don’t read books, but I get a lot of information off the internet and from family and friends. **Stephanie***

*I am a visual learner – I am not good at rote learning – I need to be creative and to try and visualize what needs to be done. I am probably a deep learner – if you look at my bookshelf I have all the textbooks for the course which I have read. **Fiona***

In interpreting these comments, one gets a sense that this group of four has an attitude that is mature, motivated and confident. These four can be further characterised as being thoughtful, reflective and intuitive learners – synonymous with a deep learning style preference. This characterisation of these four is based on what I have interpreted from their Biggs Questionnaire, their comments for the interview and from what I have found in the research on the deep and surface field of learning style preferences.

Lisa and Sari were both deep for the Biggs Questionnaire and the description of their approach to completing the DAVA, but Mid-Way/Non-Specific in the interview. They were reluctant to self-declare themselves as being deep or surface at interview. Both remarked in the interview the dislike of labels and categories that were used to ‘classify’ people. Both considered themselves to be ‘free agents’ that rejected these types of ‘stereotypes’. For both of them are a strong will and determination to be themselves. This characteristic is suggestive of a deep learning style. For example the literature discusses deep learners as being self-reliant, independent and having an ability to control and direct their own thinking and learning (Ramsden, 1988; Vermunt, 1998).

PREDICTED SURFACE FOR THE BIGGS QUESTIONNAIRE

The results of the Biggs Questionnaire for the surface approach questions located five participants – Jasmine, Kylie, Bec, Jake and Michael as preferring a surface approach to their learning. These five all scored higher to questions that were related to a surface approach – 3,4 and 5. For the deep approach questions their scores ranged in the 1-3 range. Based on the results from the Questionnaire, these five are consistent with preferring a surface approach.

Three participants shown in Table 9 exhibited a surface learning style preference across the three data sets.

Participant	Biggs Questionnaire LS Preference	Participant Declared LS	Participant LS approach to the DAVA
Bec	Surface	Surface	Surface
Jake	Surface	Surface	Surface
Kylie	Surface	Surface	Surface

Table 9: Surface consistent participants

There were also examples in their interviews that were indicative of a stable, ingrained attitude towards learning based on past experiences, family upbringing and previous schooling. Consistent comments reported by these three showed that they were directly and powerfully influenced by a close and relatively small number of family and friends. This trait is an important characteristic associated with stability of a surface learning style and was also adopted when participating with the DAVA. In participating in the DAVA, this group of three adhered to tried and trusted methods that they felt comfortable with. Like the previous deep group, this surface group enjoyed the DAVA, but said that it left no impression or impact on their current learning preference strategy. Importantly for this group, the terminology and comments made was in contrast to the language used by the deep group. These participants used terms such as ‘doing just enough to get by’; ‘trying to get through the course as quickly as possible’; and ‘only spending time on work that is assessable’. Consider how Bec describes herself.

*I think I am a surface learner. I really only do enough work to get the assessment done so that I can hand it in. I can't even remember some of the subjects that I have done. If I don't like a subject then I won't do a lot of work on it. I guess I have to be really interested in it to do a lot of work. The only thing I would probably do a lot of research on is the countries I want to travel to. **Bec***

Whereas these three showed a consistency across all three data sets, Michael, who Biggs predicted as being consistent with a surface preferred learning style, was categorised as being deep in the other two data sets.

Participant	Biggs Questionnaire LS Preference	Participant Declared LS	Participant LS approach to the DAVA
Michael	Surface	Deep	Deep

Table 10; Inconsistent preferred learning style result

Michael’s results are the least consistent in outcome. He says he views himself as preferring a deep approach and this is further supported by the DAVA. In analysing Michael’s results a number of conclusions can be made. First based on what he said in the interview and his comments regarding the DAVA, suggest a positive, confident outlook. Michael enjoys the learning experience but is keen to finish his course so he can apply what he has learned to the events industry. He says that he has an optimistic attitude towards his future and that he is a ‘hands on person’ who prefers leading to following in the workplace. Michael’s no-nonsense approach to life is based on what he maintains is an urgency to achieve goals now rather than ‘plod along waiting for the right job to appear’. He feels that this belief is in some ways due to his age (he is the oldest of the participants) and the fact that he has already tried different occupations before embarking on a career in events.

The attitude described by Michael was also noticeable in his answers in the Biggs Questionnaire. Questions that related to preferring a surface approach to learning were answered by Michael with scores of 4 and 5 (yet deep questions were in the range of 1-2). The choices made by Michael, it can be argued, are reflected in his desire to finish the course as quickly as possible and to do only what was required rather than to go beyond normal expectations in the subject.

Michael has adopted an approach to his learning that is outcome specific and which does not match his own personal belief of having what he considers is a deep outlook in general. Michael has a specific goal with his study and he is confident that he will be able to deliver on

this strategy without compromising his own personal beliefs. Michael enjoyed the DAVA because it appealed to his own interests in multimedia activities. In the interview Michael saw a future for himself working in the entertainment side of the events industry. This desire was also a reason why he devoted greater time and energy on the DAVA.

Michael is reflective of what Vermunt describes as a learner that reacts to their surroundings and activities they are involved in (Vermunt, 1998). Vermunt discusses learning styles that have at least four types (refer to Chapter 2) each one unique and having a particular purpose and use by the learner. This means that learners such as Michael adopt a style that suits the circumstances. Michael's findings are important because they highlight that in certain cases and circumstances, learners can adopt a learning preference that reflects the learning context.

Lastly, if the Biggs Questionnaire is the arbiter or benchmark to compare against other results, Michael's result is unsatisfactory considering the other twelve participants. One way to understand this result may be to consider Michael as the person from the group who can't be categorised as simply or precisely as the rest. If we relate this to the teaching and learning context, it is fair to say that there are always exceptions to the majority. Perhaps Michael is one of these. I have interpreted Michael's data as being unique yet complex and perhaps it reflects the personality, attitude and motivation of this individual. Michael's behaviour and motivation would suggest to the teaching practitioner to be guided by him rather than trying to change or force his unique approach to learning. Whether this shows a deep or surface preferred learning style, what is important is that as an individual he is encouraged within the learning context.

PREDICTED AS MID-WAY/NON-SPECIFIC

The results of the Biggs Questionnaire place Amanda and Lanie between deep and surface. Jasmine shows scores that could place her in either the surface or midway definition. The key determinate for these three is a general consistency or closeness of scores between the question types. For example there is approximately a 5 point difference separating Amanda and Lanie from the deep group, yet for Jasmine there is only roughly a 2 point score separating her from Lanie and Amanda. Based on these results it can be argued that Amanda and Lanie fit better in the midway definition and Jasmine for the surface preference.

What these participants represent is a group of learners that have a learning preference not overtly deep or surface. Like Michael, these three appear to have a fluid, less stable learning preference. Depending on the circumstances they will adopt a strategy that relates to the task or situation (Vermunt, 1998). In some cases they will have a stronger deep emphasis (Amanda and Lanie) while Jasmine is more likely (based on her data) to prefer a surface approach.

The previous two stable learning style sets are less problematic than the small group of participants that fall between the deep and surface labels (see Table 10).

Participant	Biggs Questionnaire LS Preference	Participant Declared LS	Participant LS approach to the DAVA
Amanda	Mid-Way/Non-Specific LS Preference	Deep	Deep
Lanie	Mid-Way/Non-Specific LS Preference	Mid-Way/Non-Specific LS Preference	Deep
Jasmine	Mid-Way/Non-Specific LS Preference	Surface	Surface

Table10: Midway/ Non-Specific Preferred Learning Style

Amanda, Lanie and Jasmine predicted Mid-Way/Non-Specific in the Biggs Questionnaire. Amanda and Lanie were deep for the DAVA results and Amanda declared herself surface for the interview and the DAVA. This group of three, based on the evidence, can best be described as follows; Amanda and Lanie exhibit greater deep characteristics than surface or Mid-Way/Non-Specific; Jasmine shows greater evidence of a surface preferred learning style.

The all deep or surface participants are less problematic because they are consistent across all three data sets. If the Biggs Questionnaire determines that they portray typical deep or surface responses, this is also supported by what they have said in both the interview and regarding their experiences with the DAVA.

Six of the thirteen participants (Amanda, Lanie, Lisa, Sari, Jasmine and Michael) show up as being neither; consistently deep or surface in their preferred learning style across all three data sets. This group exhibited a number of inconsistencies as far as determining what particular learning style they prefer and adopt when learning. Based on the criteria of utilising either a deep or surface approach to the DAVA, five adopted a deep approach. However Jasmine's attitude to the DAVA was from a surface preference. In her interview she also classified herself as being comfortable with a surface learning preference. The Biggs Questionnaire placed her Mid-Way/Non-Specific between deep and surface.

Amanda and Lanie have similar outcomes for the DAVA and the Biggs Questionnaire but differ slightly in how they portray their learning style in the interview (Amanda – deep; Lanie - Mid-Way/Non-Specific). The difficulty with these two is how they are defined in the Biggs Questionnaire. Both are located mid-way in the Biggs Questionnaire. Out of a total of thirteen, only three have a mid-way position with the Biggs Questionnaire.

This last group of participants provides the most challenging and perhaps puzzling results of the data. Earlier the consistently deep and surface participants were discussed and it was argued that learners that have a predisposition to either adopt a deep or surface approach are less likely to deviate from this strategy. In this study, based on the evidence found by comparing data from the Biggs Questionnaire against data from two other qualitative sources (the interview and the DAVA) , twelve of the participants are consistent with the findings of the Biggs Questionnaire. Taking into account the minor variations of results of data from Amanda, Lanie, Lisa, Sari and Jasmine the results are consistent and stable throughout the three data sets. Only Michael has shown contrary results. Michael in this situation and learning context represents that person in the cohort that has a learning style and behaviour that is non-fixed, unpredictable and powerfully affected by the particular learning environment. Based on the evidence, Michael, it can be argued, is a learner that is stimulated not by what is taught or learnt, but how it is to be processed (in this case the DAVA had a positive affect on him). This is an important finding as it contrasts nicely with the other participants and there differences with Michael.

In Chapter 6 these findings will be examined. This examination will also assist in explaining and understanding why and how the two previous findings (based on the data analysis) are affected by a number of factors and characteristics central to the learner and their learning environment. This approach will be helpful in examining the core pretext of this Masters which seeks to test the relationship (in this case assertion) between DAVAs and learners preferred learning style.

CHAPTER 6 ANALYSIS OF THE FINDINGS

The purpose of the current Chapter is to discuss a number of important findings uncovered from the three data sets analysed in Chapter 5. Chapter 6 is structured in the following way. Firstly, it revisits the purpose of the Masters in order to show how the results from Chapter 5 assist in addressing the objective of the research. That is, the assertion that activities utilising multimedia aid learners in adopting a learning strategy characterised as deep (Kajder & Swenson 2004; Prensky, 1998; Tosh, Light, Penny, Fleming & Heywood, 2005; Zubizarreta, 2004). Secondly the findings of the data will be divided into two parts. The first part will discuss the main finding and will show, based on the evidence of the research, the stable and well established preferred learning style of the majority of the 13 participants. These findings will be used to examine why this is the case and what this means for the position held by DAVAs advocates, based on previous research within the literature. The second part of the findings will discuss a number of related outcomes that tie in with the central outcome relating to learners having a stable and pre-existing learning preference. These associated results relate to learner characteristics and behavioural matters uncovered within the data.

The results of the secondary data will show how important they are in characterising the behaviour, attitudes and motivation of the participants overall when understanding learning style preferences. This distinction or separation of the main verdict from the secondary data is important because it helps to explain the behaviour and processes occurring at different levels. At one level (the primary finding) the dominant learning style preference (deep or surface results) is discussed based on the three sets of data. This relates to the scores in the Biggs Questionnaire and the interview data. As the Biggs Questionnaire is used as the benchmark to

predict and analyse deep and surface learning preferences against the other two data sets, the findings provide strong evidence of a preferred and stable learning style preference. This was a consistent trend across all three data sets for 9 of the 13 participants.

At another level (the secondary findings) discussion will cover behavioral and attitudinal factors occurring. The analysis relates to the learner and the learning context. This deals with their motivation for doing something and the strategy used when involved in a learning activity. These motivational and strategic outcomes are consistent with the subcategories described by Biggs and are factored within the questionnaire itself. Evidence of this process is located within the data and will be discussed later. The findings will be examined against what the literature says about DAVAs and deep and surface learning styles. Lastly, based on the analysis discussed in this Chapter, implications will be outlined that are taken up in Chapter 7.

The deep strategic approach, it is claimed in the literature, is indicative of reflective, analytical, and informed behaviour (Jay, 2005; Sadik, 2008). Supporters of DAVAs claim that by adopting a deep approach to learning, students gain greater insight, understanding and confidence. These writers argue that this can promote a higher level of thinking and reasoning. For the learner this equates to a learning outcome that is defined by the quality, depth and richness of the completed product (in this case the assessment task). Therefore, for a teaching practitioner, whose teaching methods, goals and motivation are focused on the quality of the learning outcomes, the use of a DAVA as a strategy to promote deep learning, would appear to fit with the teaching and learning context, (Smith & Dalton, 2005a; Lashley & Barron, 2006). The central question here is: Do the findings support this standpoint?

The primary finding relating to the results of the Biggs Questionnaire with the other two data sets, indicate that there is a clear and consistent pattern across all three data sets for nine out of the thirteen participants. The results show that there is a pre-conditioned stability within a learning style preference among these nine participants.

The nine consist of; four being deep across all three sets (deep, deep, deep – Ruth, Stephanie, Fiona and Jess); three being surface across all three (surface, surface, surface – Bec, Jake and Kylie); two (Lisa and Sari) being deep in two data sets (Biggs and the DAVA) and mid-way in the self-declared (deep, mid-way, deep). I have interpreted Lisa and Sari as showing a consistently stable learning preference for the following reasons. Firstly the DAVA result was predicted by the Biggs Questionnaire, that is, it supported the finding. As the Biggs represents the benchmark for this research in predicting learning preference for deep and surface, I have equated the DAVA result as consistent with the Biggs Questionnaire. Both Lisa and Sari were reluctant to pigeon hole themselves into a category, a belief that has more to do with their own personal views. Their scores for deep motivation and strategy were higher than surface results suggesting that they had a stronger preference for a deep rather than surface preference. This is also consistent with their positive outcome and experience with the DAVA that they reported (refer to Table 5).

Amanda, Lanie and Jasmine present similar outcomes in the data, but from different contexts. Amanda and Lanie both stated that their DAVA experience was an enjoyable and satisfying outcome (deep). The Biggs Questionnaire placed them mid-way. Lanie thought of herself between deep and surface. Jasmine was mid-way for the Biggs and surface for the other two sets. Both had score sets that showed differences between deep and surface that were only as great as 6-8 points. For someone in the deep group (such as Ruth) the difference between deep

and surface scores was over 20 points. Bec (surface) the gap was 16 points. Amanda and Lanie, based on the scores, show a definite preference between deep and surface. Their motive and strategy responses were also closely linked. A difference of between 4-8 points separated them from deep or surface categories. The evidence from the Biggs Questionnaire suggests that these two participants have adopted a learning preference that is very strategic in nature. Both respondents have a flexible and adaptable learning approach. Amanda and Lanie's motives for participating in work are dependent on a number of important factors that influence their ultimate strategic deliberation. Amanda remarked that her particular method was a 'wait and see' strategy. This meant that depending on the task or work, its worth and complexity, would determine the amount of effort devoted to the outcome. Their behaviour is consistent with the Biggs Questionnaire results for these two participants.

Of all the participants Michael has the least predictable or consistent results. If we envisage the participants as being on a deep and surface learning preference spectrum, we would have Bec, Jake and Kylie at the surface end; Jasmine, Amanda and Lanie in the middle; Sari and Lisa between the mid point and the deep end; Ruth, Stephanie, Fiona and Jess at the opposite deep end. Where though to place Michael? Not being either deep, surface or mid-way – perhaps more deep than surface? To answer this question it is perhaps advisable to regard Michael as that percentage of a population that doesn't fit neatly with the formal process of identification adopted in this research. It also suggest that like some of the other participants (such as Jasmine, Lanie, Amanda, Lisa and Sari) who don't exhibit either a dominant surface or deep preference, they have a learning preference that is highly strategic in outlook and based on motives reflecting the teaching and learning context. This is an important characteristic of this particular group (mid-way/non-specific) because it helps in explaining differences within the larger population. The following is a representation of this learning

preference spectrum. This diagram assists me in understanding and visualizing the relationships that exist between learners. This spectrum is a qualitative representation of the thirteen participants. It is not meant to be graphically objective in nature. Its purpose is to show diagrammatically the spread across a learning preference range of a number of learning preferences within a group. The range within the spectrum shown in Figure 8 depicts the diversity of learners. When this diagram is matched to the scores relating to motive and strategy located in the Biggs Questionnaire results (Tables 6 and 7) and from data in the interviews there is strong evidence of the resilient and effective characteristics found within different learning preferences.

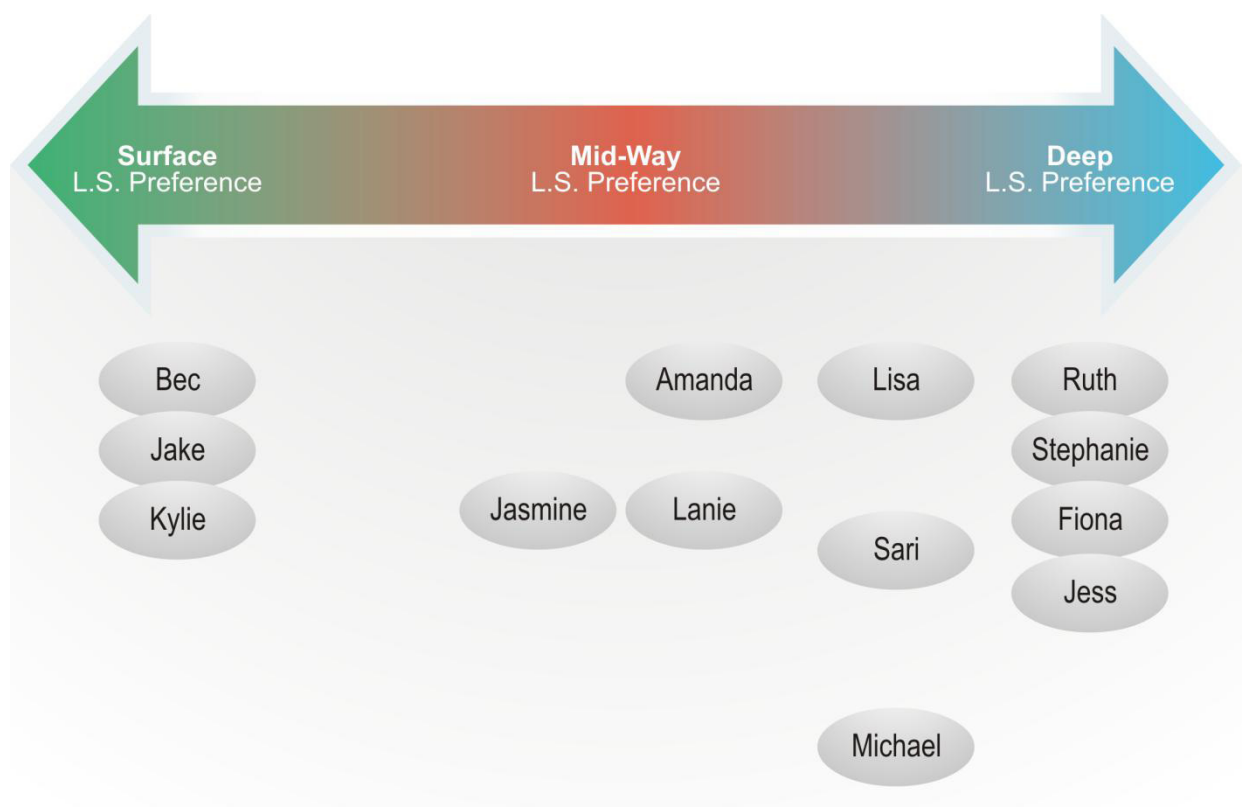


Figure 8: Learning Preference Spectrum

Like any population of students in a class, there will always be those learners who don't sit perfectly with the majority or status quo in approach and attitude with their learning. And

whose motivation and strategies for learning are dependent on a number of extrinsic conditions and internal, intrinsic behaviours developed over time. Curry's (1983) three layer onion model of learning styles (Figure 4) depicts this tension between learners and their environment as a relationship involving learning style (relating to intrinsic factors of the individual), learning preferences (the preferred method of tuition) and the learning strategy (the method the learner adopts to participate in the learning task). Curry's explanation is useful in this circumstance (with the mid-way/non-specific learners) because it explains differences between learners and reasons for why as I have shown in my learning preference spectrum (Figure 8) there is a range of learning style preferences. For Curry, the logic of his argument concerns the stability or instability of learning styles based around those factors or conditions that the learner can control. The less control the learner has over their situation or context, the greater the instability of the learning style. Whether this results in learning that is less favourable is debatable. Smith and Dalton (2005a) suggest that it is not unusual or unsatisfactory. It shows the strategic thinking and application by learners to new, different or complex situations. The data located in this research is also supportive of this belief. The spectrum in Figure 8 highlights the diversity of learning preferences and the strategic possibilities that can be introduced by learners given the right conditions. Having a learning environment that encourages both reflective and active responses is a goal worth pursuing.

As a teaching practitioner, I am conscious of the classroom dynamics and cohort complexities. I am not just commenting here on learning styles per se, rather to other factors also such as; regional, national and international differences amongst learners; language and cultural issues and differences; and differing educational levels and backgrounds. These characteristics located in the learning context need to be understood and addressed by the teaching practitioner.

These factors that have the power and purpose to change a learning preference are flexible in nature. Participants such as Amanda, Lanie and Jasmine also have learning preferences that are changeable if the conditions fit their particular motives and strategies. Assessment types, technology use and the learning environment are all important factors that influence a learner's attitude and behaviour. This has been evident with the participants in this research. Some of the participants are at either end of the spectrum (all deep, all surface), some are in the middle and some float between classifications.

Michael is a good example of someone that shifts between learning preferences. Michael has shown (via his data sets) that if the task fits his preferred method of learning, (action, applied activities), he adopts a deep approach. Michael in his Biggs Questionnaire results indicated a low score with regard to questions concerning studying, preparing for classes and enjoying researching topics. His motivation and strategy responses for surface preferences were high (4-5). In his interview he stated that he didn't like theory or analytical learning approaches, rather he preferred the practical, hands on activities. This he said suited his own goals and practices relating to his studies. Similarly for participants such as Amanda and Lanie, this can also be argued to be of a like pattern of behaviour. Participants that are located at either end of this learning preference spectrum are less problematic to locate and analyse – they either adopt a surface or deep approach consistently and over time. This consistency or stability is inherent in a mode of behaviour that can be argued, the result of learning practices, habits and conditions favourable to the learner (Lai, 2003).

If the evidence shown in the data of learning preferences is consistent with prior experiences, habits and behaviour, what of the role of the DAVA in acting or assisting learners to adopt a

deep approach? One objective, or assumption, in conducting this research was a belief that deep learning was the ideal for practitioners to plan and for learners to strive to achieve. In locating a tool that could fit or match this teaching and learning goal was the choice of the DAVA.

The literature examined overwhelmingly endorsed the use of DAVAs as a method to stimulate creative, artistic and rich learning through a combination of technologies and learning strategies (Jay, 2005; Polesel, Davies & Teese, 2004). A consistent theme embedded in the literature commented on DAVAs as being the appropriate learning tool for those learners unsuitable or disliking of the traditional teaching and learning approach – commonly referred to as the ‘chalk and talk style’. DAVAs moved away from the theoretical, analytical and text bound content, to a visual, dynamic and contemporary setting. The literature discussed in Chapter 2 supports this approach, especially when we consider VET learners and their learning preferences. The literature states that VET learners are hands on, interactive, technology conversant and prefer working on group projects rather than the isolation of individual work (Warner, Christie & Choy 1998). They dislike essays and exams and are easily bored with an over emphasis on theory – VET learners learn by doing (Smith, & Dalton, 2005a). Typically they are active rather than reflective learners (Grace, 2001; Simons, Harris & Smith, 2006). This then suggests that the introduction of the DAVA into the learning space would fit with these VET learners. Certainly the literature relates that there is a strong stimulating affect between the learner and the DAVA which if introduced properly, can be a potent tool in bringing about positive change. Practitioners of DAVAs use a language that is symbolic of the intent of the tool. Deep, rich, complex, rewarding, engaging, liberating, fun, exciting, futuristic and practical are terminology synonymous with the DAVA experience as described by certain writers (Barrett, 2006; Jay, 2005; Ohler 2009).

Was a similar outcome achieved with my thirteen participants? ; based on the evidence- no. Taking Michael as the exception, the DAVA did not change the learning preferences of the twelve participants. What does this mean then for the outcome of this research? A number of conclusions can be presented that assist in addressing this finding and provide teaching and learning strategies.

- Participants with a pre-existing, stable learning preference are unlikely to change. Only the most unenviable or difficult conditions may influence a change. This finding is supported by the three data sets and includes nine participants with deep or surface learning preferences. The DAVA had no impact on the participants preferred learning style
- Participants that have a learning preference that is less stable will adopt a preference that suits the task, activity or assessment. Four of the participants fit this category. This behaviour (based on the evidence) is suggestive of factors relating to learner motivation and strategy outcomes concerning the learning context. The DAVA was a positive experience for four of these participants, but not because of the intrinsic nature of the DAVA, rather it reflected factors concerning motivational and attitudinal characteristics surrounding these four that reflect pre-existing learning preferences.
- The DAVA did not restrict, inhibit or negatively alter a participants learning preference. Nine out of the thirteen enjoyed the DAVA experience. Four were ambivalent towards it. These four (surface; Bec, Jake and Kylie) showed a consistency across all three data sets – surface, surface, surface. Based on the evidence, Bec, Jake and Kylie treated the DAVA as they would any other learning task – their motive and

strategy approach was deliberate and consistent in delivery. They enjoyed it but it had no impact on their learning preference style.

The three findings outlined above highlight the tenacity, resilience and robustness of learning preferences (of the participants) to remain fixed and stable. The DAVA is a tool, (based on the literature) that is structured to work within a learning environment that should be conducive for positive and dynamic change. The DAVA has as its core fundamentals the objective to engage and liberate the learner towards a richer and fulfilling learning experience, not found in the usual learning spaces (Weis, Benmayor, O'Leary & Eynon 2002). The DAVA, because of its intent and structure, should suit VET learners considering their temperament, ability, experience and motivation (active, hands on for instance). Based on the evidence discussed above, this is not the case with these thirteen participants. This result demonstrates the importance of key characteristics that relate to the primary findings in the research. These characteristics overlay the three main findings discussed earlier.

In Chapter 5 the results of all three data sets support the contention that amongst nine of these thirteen participants there is a stability of learning styles. Considering that all these students had completed Year 12 it is perhaps not surprising that each had a well developed learning style prior to William Angliss TAFE. The literature also supports this finding. Research done by Lashley and Barron (2006) comparing Hospitality and Tourism students from the United Kingdom, Hong Kong, Singapore and Australia, highlights the uniformity of Australian students and their preference for a learning preference that is activist in behaviour – in contrast to the more reflective learning styles of the Asian students from China and Singapore. Comments made in the interviews by some of the students clearly reflect quite a rigid, almost inflexible approach to learning. Therefore the introduction of a new or different assessment

method (for example the DAVA) is unlikely to alter a learner's approach. This suggests also that there a number of factors linked to learning style preference that are embedded within the participant that need to be analysed. These overlay characteristics are important because they assist in understanding learning preferences and how best to accommodate different learning preferences (surface, deep and midway – refer also to Figure 8, the learning preference spectrum) amongst a student cohort (Smith & Blake, 2006; Smith & Dalton, 2005a; Smith, & Dalton, 2005b). The findings from the participant data highlight a number of overlay characteristics that reinforce the relationship between learning preferences, motivation and attitudinal behaviour and learning outcomes – outcomes that Biggs refers to as 'product' (Biggs et al. 2001, p.136). Biggs argues that there are other factors at work within the learner's environment that affect the overall learning preference. As portrayed in the Presage, Process, Product model (Biggs et al. 2001, p.136). This model shows the interplay of both internal (intrinsic) and external (extrinsic) factors that inform and affect the behaviour of the learner. For those learners who have a stable, predictable learning preference (deep or surface) dealing with external factors (distractions, changes and alterations within the learning space) are of less a concern. This is the result of building over time a learning preference framework that assists the learner to adapt to most situations (Biggs, 1987a; Mimirinis & Bhattacharya, 2007). This framework is essential when devising strategies to deal with unusual or changed teaching and learning conditions. Biggs argues that learners of a more unstable or flexible preference, it is of greater concern. This presents to the teacher a number of options and strategies to deal with these factors. These strategies will be discussed in Chapter 7. At this stage, characteristics that have emerged from the participant data need to be analysed.

Based on the participant interviews, the Biggs Questionnaire and the findings from the DAVA activity, a number of recurrent overlaying characteristics have emerged. These are:

- *Student learning strategies were well established prior to William Angliss TAFE.*
- *Students had a clearly defined concept of themselves (short and long term goals) and therefore they tended to concentrate their energies and time (task focussing) on matters that they deemed relevant to them at that particular period.*
- *Personal and public technology use (hardware and software) by all students was ubiquitous – how the technology worked was not important for them.*
- *Student intrinsic/extrinsic reasons for doing work/study were a major factor in them participating extensively in any assessment task.*
- *‘Hands on’ activities and assessments were the most preferred by participants.*
- *The DAVA was enjoyable for nearly all students, but its impact was superficial and short lived.*

As will be shown, these characteristics not only inform the DAVA experience, but also show that other elements are involved in determining and guiding a learners preferred learning style, whether deep, surface or somewhere in between. By way of explanation, these six characteristics can be arrayed with the Three Fields of Observation model. This is helpful because it informs by expressing the connections between these characteristics and the model in a way that highlights the influences of each of these different factors and how it relates to

the Masters purpose. I have represented this relationship between the Three Fields of Observation and the six other findings in the research as below.

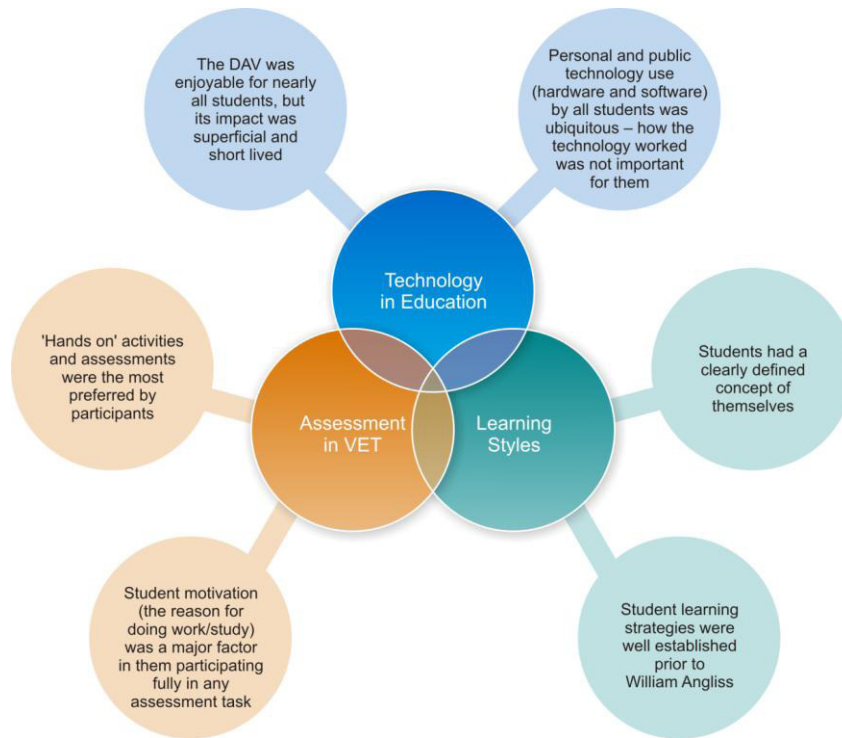


Figure 9; The overlay of student characteristics with the Three Fields of Observation

These six overlaying elements directly influence learner behaviour and attitude concerning the DAVA. These elements are embedded with the learner’s preferred learning style because they characterise the essential components. In other words they define who the learner is – deep, surface or somewhere in-between.

In examining these six characteristics of the data, a number of conclusions can be made which focuses on particular themes that carry through this research and reflect the associations between learning styles, assessment in VET and technology in education. The first theme concerns learner self-identification (how they saw themselves, motivation, confidence and strategies for participating in a learning environment).

The first two characteristics listed above deal with learning styles. I have represented this diagrammatically by showing the association of one of the Fields of Observation - Learning Styles with these two characteristics.

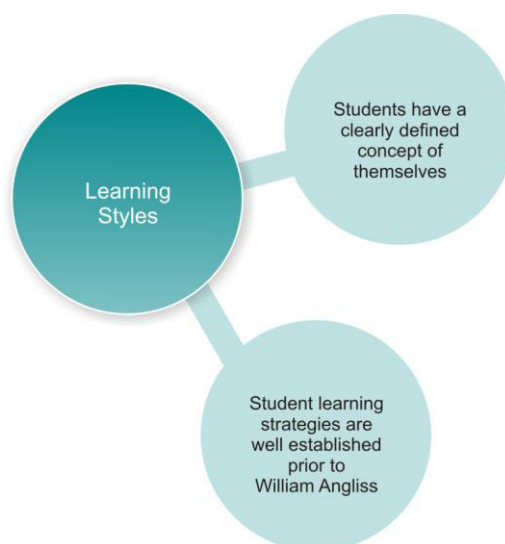


Figure 10 The link between learning styles and student factors located in the data

The participants state in the interviews their reasoning behind being the person they are and the learning preference they adopt based on this belief. They say that this belief is the result of a number of causes. Ruth (deep) likes structure and applying good study habits to her work. Stephanie (deep) is the opposite. She is disorganized, impatient and easily bored. Yet she has learnt over time the importance and satisfaction of self-achievement. Stephanie likes to immerse herself in the work so that she has a better understanding of the topic. Both are interested in learning and have adopted different strategies when participating in the learning environment. Ruth, Stephanie and Fiona (deep) all comment on the influence of their parents in setting the structure and strategies when doing work. All of the participants had a clearly defined concept of themselves. They could also describe themselves clearly regarding the subject of learning styles. Jess and Lisa commented on the importance of having people in their lives that were either good role models or helped guide them with useful and practical

tools relating to study and learning. This suggested a learning style that was mature and less likely to change given their present circumstances at TAFE. For the surface participants there was a similar finding with regard to stability of learning preference. Surface participants, such as Kylie and Bec, felt comfortable with who they were and the way that they approached their learning.

These two characteristics relating to learning styles are also evident from the Biggs Questionnaire. Participants that said they were either deep or surface in the interviews also scored around the 4-5 mark in the Biggs Questionnaire that predicted motivation and strategy behaviour relating to the learning preference. What these figures suggest is a corresponding connection between motive and strategy. This relationship is comparable to Curry's (1983) interpretation of learning style, preference and strategy, which shows how important it is to understand that a number of factors are involved in determining a learner's predilection for one preference to another. A strong link exists between those participants that had a confident self-image, a well developed learning preference and a high score. Based on Curry's research this is an example of a stable learning preference. Whether or not it was deep or surface, the motivation and strategy scores reflected this strong belief. For example Ruth's scores for deep motive and strategy combined are 45. Bec (surface) has a corresponding score of 36 – not as high as Ruth, but consistent enough to claim that there is a determined method in her thinking. These scores are interesting in that they reveal that the deep participants (Ruth, Stephanie, Fiona, Jess, Lisa and Sari) had a higher score for most of the question except the surface ones. For the surface participants (Jasmine, Bec, Jake, Michael and Kylie) scores ranged from 32-39 regarding the motivation and strategy questions.

It was quite surprising (and refreshing) to discover in the interviews and from the questionnaires how organised the students were regarding the planning and thought that they had given to developing strategies for their own short and long term goals.

Surprising because I would have expected that personal goal development would not be high on their agenda. Rather (as mentioned in the previous examples of the literature on generational traits of this cohort) there is a tendency to stereotype this age group as noncommittal, undisciplined and aimless (Bauerlein, 2006; 2008). This proved not to be the case. For me, this was heartening because it shows that these students were looking forward to the challenges and opportunities that may be available for them given the right attitude and commitment from them.

There seemed to be urgency, (reflected in the interviews), with the way the students pursued their course and a real desire in moving from the classroom to employment. This may also be a reason why none of the students said that the DAVA had a major impact on the way that they learnt, nor helped them to be motivated in any real way. There was an impression from all the students interviewed of a drive and energy to what lay ahead for them. Put simply, they wanted to complete the course as quickly and as painlessly as possible. Reflecting on this point, I look back on my own educational journey to find a great deal of similarity with this particular cohort and the desire to exit a course promptly, especially considering everything else going on in a student's life.

Figure; 9 outlines the relationships between the participants own intrinsic motivation, aptitude and attitude within the total environment of the learning context as defined by the Three Fields of Observation model. This refers back to earlier remarks about the importance of managing and improving the learning situation in order for the outcomes to be positive. It also

highlights the incredible complexity and disparate elements that need to be brought under control. This is not an easy task to achieve.

Learner Characteristics and Assessment in VET

The next set of characteristics that inform the research findings relate to assessment in VET.

Within this finding, two examples can be drawn from the data.

- *Student intrinsic/extrinsic reasons for doing work/study was a major factor in them participating fully in any assessment task*
- *'Hands on' activities and assessments were the most preferred by participants*

Both these findings have strong correlations with the literature regarding VET students and their preference to certain teaching and learning practices (Smith & Dalton, 2005a, 2005b). It is clear from this data, and supported, by the literature, that all the participants are active rather than reflective – preferring the practical over the theoretical (Imel, 1999). Therefore their motivation for participating in study and learning is framed within this description of what it is to be a VET learner. The interview data supports this belief, with many references and comments by the participants of enjoying the hands on activities.

Motivation and related strategies was also connected to the assessment process. It can be argued that there is nothing odd or unusual about students' tendencies to devote greater effort and motivation to those assessments that are worth more. For these participants the same can be said.

*I always look at how much the work is worth which helps me to decide how much work to put in. I am a busy person, so I don't want to waste time on assignments that they want us to do which are only worth a small amount of the whole score. **Ruth***

The reason for completing work and being involved in the course were seen as two different things. At one level the participants said that their main motivation for engaging in a task or activity was related to the worth of the task. The higher the mark (percentage) the greater the attention the student would allocate to the assessment.

This strategy was at times in conflict with what some of the students liked or disliked with different tasks as part of the subject being studied. With most of the units studied by the participants (and because these units are competency based), there were no units that were of a higher value than others. This meant that assessment tasks were not weighted within each unit rather students had to show competency in completing the assigned assessment tasks. However, in reality grades were assigned to assessments in order to differentiate outcomes between learners (quality, application, aptitude and product conditions). Learners (William Angliss TAFE) felt more accepting and comfortable knowing that there were levels (grades A-C) relating to their work. Participants such as Fiona (deep) and Jess (deep) had strong opinions regarding the importance of attaching grades to work as this formed part of their motivation to strive for the highest possible mark. Participants such as Jake, (surface), equated grades, or the absence of them, (competent only), as being important to his motivation. Depending on the grade, he would apply the corresponding effort.

*I see what the weighting is like. Some teachers use different weighting systems, so it's important to spend the right amount of effort on the higher score. **Jake***

For the participants this meant that they tended to perform better in tasks that they had an interest in or like of, rather than applying a uniform approach to all assessment based around a percentage mark. This they said had an impact on their motivation as a whole. Therefore the theme of, 'learner motivation in engaging in assessment tasks' that emerged from the interviews and from the Biggs questionnaires, was also a key feature of the students engagement with the DAVA. Students initially approached this assessment task as they would any other assessment task – that is, the mindset of the participants was predetermined.

There were some differences between participants regarding their motivation to participate in work. This can be associated with the preferred learning style. Jess (deep) strived to do her best regardless of the worth of the assessment. For her it was all about getting the most out of herself and achieving an outcome that matched her high standards. Kylie (surface), conversely is easily distracted and gets bored often. If she finds the topic uninteresting she switches off. This she says tends to have a detrimental affect on her marks. At a secondary level, student motivation to engage in any assessment task was also influenced by how novel, stimulating or relevant it was for them personally. Bec (surface) also had similar opinions with Kylie. For Bec it was also about the large number of subjects that had to be covered. She remarked about the value of this and whether they had any point being on the curriculum.

Figure 11 below shows the relationships between the two (assessment and student motivation) characteristics and the Assessment in VET Field of Observation are developed and linked.

This is important because it also highlights the complexity of both intrinsic and extrinsic factors that influence learner behaviour.

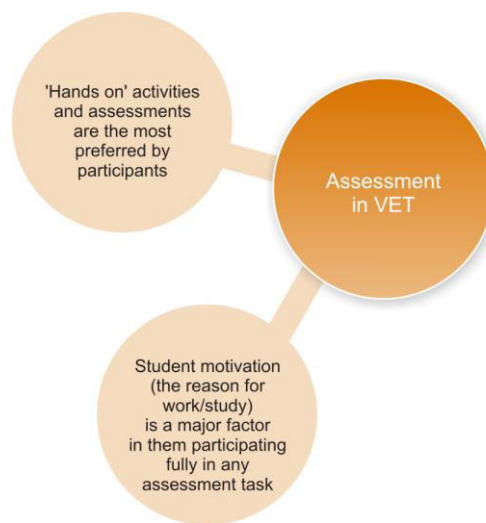


Figure 11; Learner characteristics and assessment in VET

A theme that was consistently reported by the participants in the interviews was the importance of being involved with practical, real life examples rather than theoretical, intangible constructs relating to their subjects. This meant that practical, hands on examples and targeted problem based projects involving scenarios or situations from the events industry were overwhelmingly preferred by all students. Ruth (deep) remarked that she specifically attended TAFE because it was hands on and not theory centric. Many of the participants reported that they were at TAFE and not university for a specific reason and therefore they didn't want to be lectured at, rather they wanted to be doing things based around what they could expect once they graduated from their course. Jake (surface) related examples from his own experiences about the importance of practical lessons that are directly attributed to the specific industry. For Jake this meant that students should be doing events because it is an events course.

If we relate this theme back to the DAVA assessment and whether its impact or purpose was successful for both the students and the teacher, then it had achieved its aims and objectives. Many of the students enjoyed the DAVA because it was a hands on activity. It also required a level of interaction and understanding untypical of the usual written assessments. The participants remarked that the DAVA allowed them to express themselves in a more creative, imaginative environment. An often repeated comment from the participants was that the subjects that had the greatest impact for them in their course were those subjects that involved a greater element of applied activities. For Amanda (deep) this equated to being happy and enjoying her course. This was very important to her because it meant that she could participant at a much deeper level.

The DAVA was one of those activities that they could remember and describe in some detail. The participants also said that they could understand the link between the assessment topic – a DAVA concerning a training video on workplace occupational health and safety, and the method to be followed – using software and hardware to create the video. This was central for the participants in being engaged in the task. And because it was a practical exercise (for the participants), it corresponded with their own expectations on how they preferred to learn.

Learner characteristics and technology in education

The final two characteristics deal with the topic of technology in education. Two important findings in this area are concerned with the participants own heavy use of technology and the lack of any DAVA legacy once they completed the assessment. This relationship is depicted as follows:

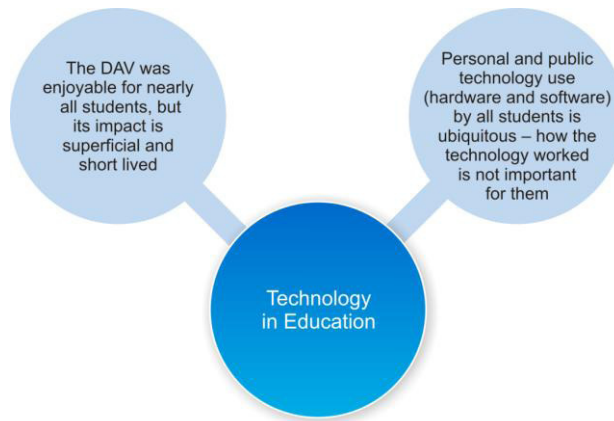


Figure 12: Learner characteristics and technology in education

If the success or failure of introducing the DAVA to students depended on its uniqueness and novelty value, then based on what the participants said – the DAVA achieved its goal of engaging the learner. The majority of the participants enjoyed the DAVA because it was not only different and new for them, but the assessment task was delivered in a structure that they were personally familiar with. The environment of the internet, the use of both hardware and software were all media that the students were comfortable with. The DAVA also gave the students a chance to express themselves in a different context rather than the usual written assessments based around reports, tests and other text based documents. This was something that attracted Michael to the DAVA. The DAVA certainly appealed to Michael's own proclivity towards these types of activities.

This particular characteristic based around the format of the DAVA is not really surprising given the large amount of research available on the topic of this generation and the high uptake and acquisition of technology (Bauerlein, 2006, 2008; Caine et al, 2005; Dwyer, 2004; Imel, 1999; Reiser & Dempsey, 2007). Writers such as Cunningham & Turner (2006), Dominic (2009) and Dwyer (2004) discuss the particular relationship this demographic has with technology. The authors describe the relationship as being close, intense, driven by a

consumer demand unlike any before (in terms of access and use of technology). Whether it is hardware related (mobile phones, game consoles, digital cameras) or software based (gaming, social media related) the motivation to use and adapt these products is (as referred to by Dominic, 2009, p.73) a behaviour that comes naturally to this cohort.

What is surprising to find in the interviews was a lack of understanding or desire to understand how the technology functioned. Lisa got her boyfriend to fix any problems she encountered with technology. Sari (deep) said she was easily put off when technology didn't work. This she put down to being a perfectionist. As long as she could control the process, then the outcome would be of her usual high standard. If not, (as with technology issues) Sari lacked motivation to maintain a high level of commitment to the task.

This type of issue was also apparent in a detailed study by Pegg et al, (2007) that investigated the progress of ICT projects and policies over a number of years. The main area of concern was the lack of 'interface' between the technology and the user, which of course led to a high degree of dissatisfaction. These 'interface' problems concern technical problems encountered, the lack of support from service providers within learning organisations and inconsistencies with teaching and learning delivery. Students in my research were typically purpose driven with their use of technology. Comments made in the interviews indicated that students had quite high expectations from the learning environment. This entailed that the technology used in and around the classroom should work first time every time. When the technology failed or was slow to operate, students said that they tended to disengage from the activity or task that they were involved with.

This had an implication or outcome, for the teacher, of unwillingness on the part of a number of students to be patient and reflective when the technology failed or fell short of what it was supposed to achieve. This was evident with Jake, Jasmine, Kylie and Bec (all surface). They commented on an impatience and annoyance when the technology didn't function as was required. For Ruth, Jess and Fiona (deep) there was a more patience understanding tolerance of the situation. This difference in tolerance levels between the surface and deep participants is suggestive of dissimilarities between the two learning preferences – a deep preference is suggestive of a willingness to persevere and overcome obstacles in order to reach a worthwhile and satisfactory outcome – a surface preference is indicative of a behaviour that involves only spending as much time as is necessary, an unwillingness to deal with and overcome problems that don't relate to the task or require extra effort and a strategy redolent of rote or prescriptive learning. The interviewees remarked that the problems with the DAVA technology not working was not seen as “the teachers fault” (by them) rather it was more related to the IT support (or lack of it) and the age and sophistication of the technology being used by the students. The one single issue that all students noted regarding the use of technology and it's effectiveness for them was speed. For Jake (surface) who considered himself not very technology savvy, the slowness of the network was frustrating. Even though it was explained to him about the number of users on the system at one time will result in a slowdown in activity, he found it hard to comprehend. For Jake it wasn't good enough – he expected it to be slow at home, but here at TAFE?

All interviewees said that they were hampered by a slow network system which made it difficult to move from task to task. This also reflected perhaps an unreal or too high an expectation by them on the institute, based around their own personal use of technology and the speed and ease with which private internet providers offer to the world at large.

Based on what was reported by the participants in the interviews, the DAVA was enjoyed by nearly all. Out of the 13 participants two students didn't enjoy the DAVA (Jasmine (surface) and Bec (surface)). Jasmine's reasons for not enjoying the DAVA were related to her own lack of confidence in using technology. Jasmine also felt that the method used for the DAVA wasn't explained sufficiently enough for her to grasp the process properly. This affected her confidence which meant that the assessment was really only half done. Jasmine said she was disappointed with her project and would have liked more time and attention from the teacher in order to present a better result. Jasmine said she is easily discouraged from using new or different technology if there are problems with trying to get the technology to work in the first place. Because Jasmine had trouble with both the software and hardware used for the DAVA, this only reinforced her apprehension in using technology in general.

Bec's reasons for not enjoying the DAVA relate to her time management shortcomings. Bec said that she is continually late handing in assignments. She realizes that there is a problem but lacks the motivation to resolve the situation. Bec remarked that her career motivation is not focused on events; rather she wants to travel and then go to university. Once she finishes university she then would like to work in the tourism sector. This lack of motivation for the events course was a major reason for her attitude towards completing successfully the DAVA. Bec missed a number of classes which covered the explanation and directions for doing the DAVA, and she had to rely on a classmate (who also had some problems doing the DAVA and handing it in on time) to explain how to complete the DAVA.. Bec said that the whole experience of the DAVA was 'stressful and pointless' mainly because of her lack of attendance and low motivation to be involved with the assessment.

Eleven of the thirteen participants enjoyed doing the DAVA. These eleven were satisfied with their finished assessment. They said that it was a fun exercise and overall they liked being involved with an assessment that was both stimulating and creative to do. Even though the DAVA had a successful outcome for the students, all said that there was no real lasting impact or deep learning outcome for them.

Bec remarked that; “yeah, it was fun, but once it was finished I basically forgot all about it”. For many of the students the DAVA was just another piece of work that required their limited time in a crowded and hectic student timetable. Coupled with the issue of trying to cram work commitments and family and leisure pursuits; college life for many seemed to be a “blur” most of the time.

Clearly, based on what the students said, the DAVA can be viewed as an enjoyable exercise that has not left any lasting or deep impression. What then does this say about the intention and use of this type of activity? It can be argued that perhaps these findings are obvious given what we already know about VET learners, considering also what was discussed in the literature review. Issues raised by the participants regarding the six characteristics are common, either in part or as a whole and, to me as a teaching practitioner, are familiar. The teaching and learning environment, in my view, is a complex and at times surprising place. To have a clear and realistic understanding of the learner requires an extensive theoretical and practical knowledge of the teaching and learning environment. As a VET practitioner it is not enough to have strengths in one area and less knowledge or skills in others. Learners quickly appraise their own learning environment to determine how best to approach the situation. How much effort or energy to apply will, as been shown in this small research project,

determine outcomes that may be positive or negative. The findings have also highlighted how strategic these participants are with their learning. The choices they make regarding assessments are strongly influenced by intrinsic factors developed over time, and characteristics and behaviour that has adapted with extrinsic demands and changes based around and from within the learning context.

This brings us back to the Biggs model discussed in Chapter 2, which is structured around a three stage pathway when examining a learners approach to a task or activity. Biggs describes this as presage, process and product. In order to arrive at a satisfactory result or conclusion – in this case the product stage, both the presage and the process need to be carefully understood, communicated and monitored by the parties involved. The Biggs model has proved useful for this study because it can be incorporated into the Three Fields of Observation discussed throughout; learning styles, assessment in VET and technology in education.

CONCLUSION

All participants involved in this project had stated that the DAVA was an imperfect activity. Whilst the majority said that it was a fun activity to do, there is no evidence to claim that it had any deep, lasting or meaningful impression on the participants learning style. Each participant either was affected by their own intrinsic learning style and/or there was an extrinsic interference that disrupted the integrity of the task and which resulted in an unsatisfactory outcome for them.

Biggs highlights some of these intrinsic and extrinsic factors in his model (Biggs et al 2001). He notes that in the presage stage that there are a number of student and teaching factors that need to be addressed. Student prior knowledge, ability and preferred learning approach need to be understood by the teacher. This is especially important when implementing a new or different activity. Importantly for the teacher is how the student will react to a change or different direction concerning their own learning?

These relationships between intrinsic and extrinsic elements are continually being played out within the learning context. To help me understand this process and to expand upon later, the following diagram assists in focusing my attention towards these elements.



Figure 13; Participants and contributory factors affecting learning preference

CHAPTER 7 CONCLUSION

INTRODUCTION

The focus of this research was to investigate learner preferences relating to the way participants approach their studies. The setting is William Angliss TAFE Melbourne that specialises in hospitality and tourism. Central to this study was an analysis of a digital audio visual assessment task based within a competency delivery mode that incorporates graded assessment. A feature of this research was my own personal involvement with technology related tools as a way of stimulating the interest and participation of students.

Throughout this research, as a way of clarifying my thinking in relation to the DAVA investigation, I have adopted a method that incorporates the use of diagrams and models to visually express concepts that relate to teaching and learning practices. The first model discussed was the Three Fields of Observation model.

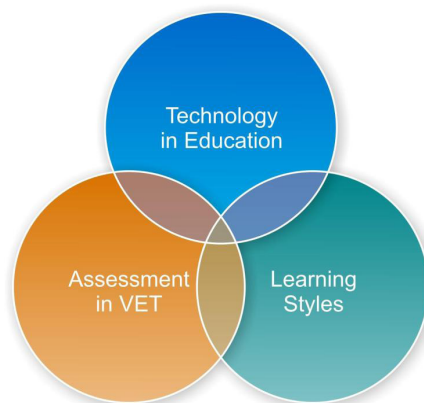


Figure 14: The Three Fields of Observation

These three themes underpin the relationship between the learner and the learning context. Learning styles, assessment in VET and technology in education form the backdrop against which thirteen participants told their personal stories. These stories help to uncover the learning preferences and related intrinsic/extrinsic factors concerning the learner. A feature of this model (Figure 14) is the importance of the interconnectedness of the three areas. These fields are important because they represent the environment within which the investigation takes place. Whilst these are not the only three areas to be aware of within the context of this study, they take a central position.

The second model incorporated into the structure of this Masters is the Biggs (3P) presage, process product model (Biggs et al. 2001, p.136);

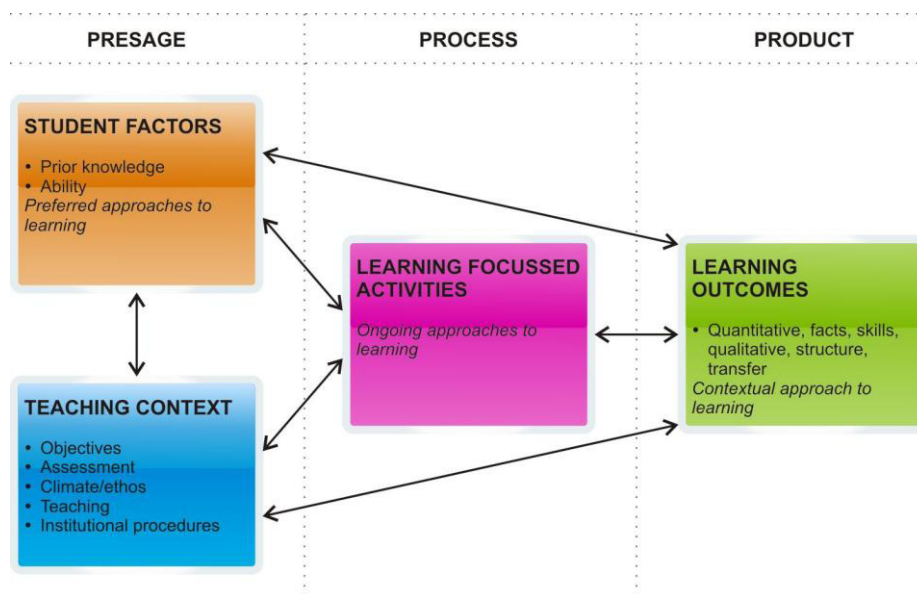


Figure 15 Biggs presage, process product model (2001)

The intention of the Biggs model is to ensure that good teaching is occurring and that student outcomes are met.

The generic aim of good teaching is precisely to encourage students to adopt a deep approach and to discourage the use of a surface approach (2001, pp.136-137)

Using the Biggs presage, process, product model is useful because it is based on extensive research into learning preference styles and is formulated around Biggs's own work on deep and surface approaches to learning that is at the core of his Study Process Questionnaire.

Lastly, the Curry (1983) three layer onion model of learning styles has also been important in understanding the dynamics and processes occurring between the learner and their environment. Curry's model shows the links between an individual's motives and the behaviour resulting from their intrinsic learning style, which is crucial for their learning preference and ultimately their corresponding strategic approach.

The complex relationship between intrinsic and extrinsic factors (as shown in this research) ensure that in the learning environment there will be a range of different learning approaches in any educational context. To conceptualise how this functions, the 'learner centred model' (Figure 16) is proposed that portrays the relationships and characteristics between the learner and their environment. This model is an outcome of the findings regarding the DAVA. It aims to explain the importance of understanding the learner and how different factors or circumstances can alter (or not) their preference to adopt a particular learning strategy. It is a combination of Curry's (1983) and Biggs (2001) 3P models depicting the learning context as perceived by the learner (Figure 15).

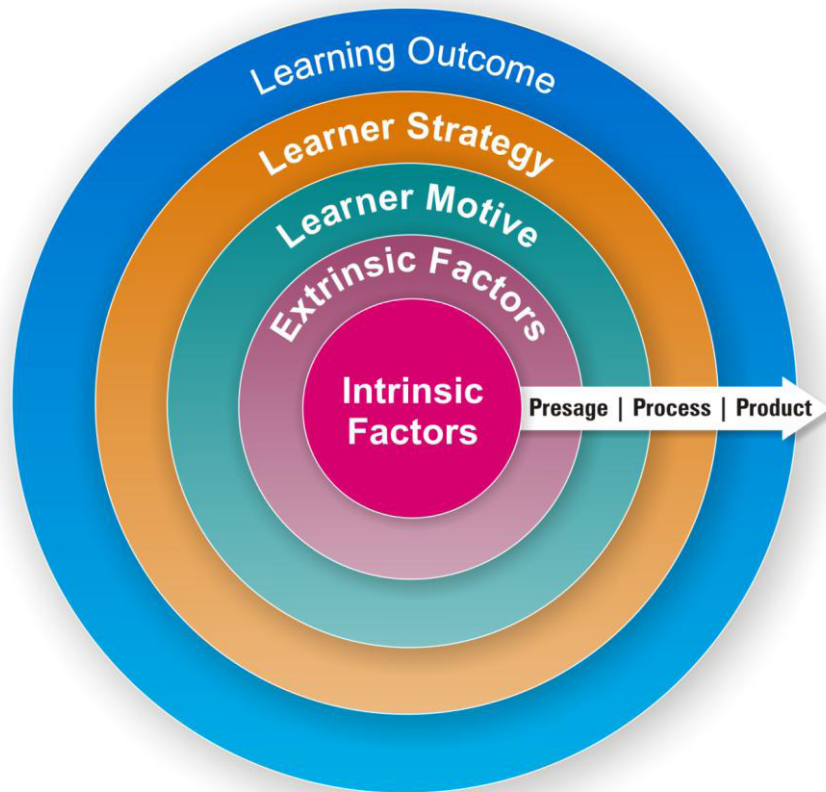


Figure 16: Learner Centred Model

In this model (Figure 16) I have moved Biggs teaching context sections into the circle that is labeled 'extrinsic factors'. I consider the teaching environment separate from the individual because my model is learner centric, that is, it views the learning context as a learner perceives it – from within looking out. As the teaching context needs to be negotiated by the learner and this ultimately affects their motivation and strategic approach.

The Learner Centred model has at its centre the intrinsic factors that are inherent to the learner when making decisions relating to their learning. Examples of these are the influence of socialisation relating to family and friends in shaping behaviour; prior to attending William Angliss TAFE. In a constructivist sense these concern the manner in which a learner develops, over time, their own identity based on a number of experiences within a close

familial network. From these experiences comes a level of perception and understanding unique to that individual. One gets a sense of experiences built up over time and that help determine their motivation and ultimately their strategies for dealing with the world, and in this case the learning context. Intrinsically, it can be argued, a learner has a set of skills, knowledge, and experiences that will determine attitudes and behaviour. These intrinsic factors are instrumental in shaping the learners strategic approach to the DAVA. Learners adopt a strategic approach to the DAVA based on a bundle of prior and current factors.

The Biggs presage stage is divided into two parts – one relates to the student (student factors) and the other to the teaching context. Student factors include prior knowledge, ability and preferred learning approaches. The current research has elicited a number of concrete examples of these influences. For example a number of participants spoke of the importance of their parents in helping them to decide on important life matters such as their educational choices, work and financial concerns. Fiona (deep) and Jasmine (surface) both comment on the role of their parents in setting the parameters regarding what is acceptable behaviour and encouraging hard work and being organised. These participants said that they have a good understanding of their capabilities and this has helped them to feel comfortable at college.

Teacher context as represented by the Biggs presage stage is located in the extrinsic factors ring of the Learner Centred Model. Learners have less control over these factors. The Biggs model identifies the teaching context as objectives, assessment, climate/ethos, teaching and institutional procedures. It is placed in the extrinsic ring because as the learner moves outward from their internal, intrinsic comfort zone they need to deal with other factors. The Biggs teacher context part relates to the participants' arrangement with William Angliss TAFE as well as extrinsic factors associated with the learner. For example, the influences of learner's

work outside college, and social activities which are part of the weekly demands on the time of learner. The participants in this research have all commented on various extrinsic factors that influence their approach to a learning task. This may be as basic as being too tired to concentrate during class because of work or socialising. Other factors include technical problems with the DAVA and the assessment type.

In the Biggs 3P model, the process stage follows the presage stage. This is where the learner participates in the activity, assessment or task. This involves two elements – the learner’s motive for doing the work and their strategic approach for completing it. The learner motive and strategy rings of the Learner Centre model relate to the Three Fields of Observation model (Figure 14) which deal with key areas of learning preference, assessment in VET and technology in education. Within these three fields exists many options and challenges for the learner. These relate to the learning outcome. The product or completed task quality will be the result of the journey the learner takes through the model shown (Figure 16). Biggs argues that the process stage is “at the heart of the teaching/learning system”, (Biggs et al., 2001, p.136). It is at this stage that crucial interactions occur between the learner, teacher and the learning context. Biggs contends that the learner adopts a preference that is appropriate to the activity or task. This he says is dependent on factors not only present in the process stage but conditions located and influenced by the presage stage. In the Learner Centred model, Biggs’ teaching context is moved to the process stage and relates to the external conditions encountered by the learner. The type of assessment; the teacher’s ability, skills and knowledge; the learning physical conditions are critical influences. The learner is continually assessing, reflecting and analysing their extrinsic conditions. Participants talked about the way that they prepared themselves prior to involving engaging in an activity. Jess commented on her ‘wait and see’ method before adopting a strategy. Jake and Sari spoke of a ‘weighing up’

of all the benefits and deficits of an activity before commenting. This type of behaviour had a fundamental impact on the learning outcome (Biggs' product stage).

Once the learner has reached a point where the context is understood, they then decide on the appropriate strategy that will allow the task or activity to be completed. Learner motive is very important in determining the strategy used. In the Learning Centre Model this is described by moving outward from the centre until the outer ring is reached (learning outcome).

The Learner Centred Model attempts to show the relationship between the learner and their learning context. The model's purpose is to assist the teaching practitioner to understand the learner and their approach to learning. Regardless of the activity (DAVA or otherwise) the stages of thinking and acting by the learner need to be evaluated so as to provide an environment conducive to quality teaching and learning. This model is designed to stimulate reflection for myself and my fellow colleagues in order to plan and implement learning that reflects the needs of the learner. By placing oneself within the learners environment and understanding how they operate at different levels (motive and strategy) and acknowledging the influence of both intrinsic and extrinsic factors, the teacher can prepare and implement learning in tune or sympathetic to the learner.

SIGNIFICANCE OF THE RESEARCH

This research is significant for a number of reasons. First, from a personal perspective it informs and assists my own teaching. It helps me to better understand not only my students but the larger teaching and learning environment that surrounds me. What I have discovered

regarding learning styles and the interplay between the three research themes and the student will better equip my own teaching practices. What this research suggests is the importance for teaching practitioners to have an informed and balanced understanding of the three research themes. VET teachers, it can be argued, deal with these themes constantly, therefore being conversant and articulate with regard to them is important. Secondly, this Masters and the findings from it can also be of benefit to my colleagues at William Angliss TAFE. Thirdly, it is hoped that from a broader perspective, these research findings may inform the general VET context.

LIMITATIONS OF THE RESEARCH

The most obvious shortcomings of this research are the small number of participants involved. Given this constraint, there would be value in repeating the study with a larger number of participants. I have been careful in alluding to or making statements or observations that are not supported by the data. I have tried to narrow the focus of the investigation as a way of keeping true to the original intent. This intent was to investigate the impact of an assessment task considered to be a powerful motivator towards a learning strategy viewed as deep rather than surface in directing learner behaviour and outcomes. This I feel has been achieved.

Another factor that may be seen as a limitation in this research is the use of one particular learning style inventory (Biggs). Earlier I discussed reasons for adopting Biggs as a means to test the DAVA assertion. Critics of the deep and surface approach argue that caution needs to be considered when assessing learners. Coffield, Moseley, Hall, & Ecclestone (2004) in their seminal work on learning style inventories are also wary of the use and benefit of learning

style inventories. They argue that overuse or reliance on any learning style inventory can be seen as labeling and stereotyping of learners into a particular category. With so many different approaches to learning styles, choosing one from another does not seem to be based on a scientific or empirical method. Coffield, Moseley, Hall, & Ecclestone (2004) point out the tendency of learning style inventories to come and go like fads or trends supported by different sides in the pedagogical context. One must be careful in classifying students into a particular section or behaviour. I have used the Biggs inventory style as a way of identifying and understanding my learners. It was never my intention to use the Biggs deep and surface approach to justify the DAVA outcome but rather as a means to compare with interviews in order to have available more than one source of data. This research process through the interviews and readings has helped me to be greater informed in my work. This I believe will make me reflect and act on my role in a positive way.

SUGGESTIONS FOR FURTHER RESEARCH

This Masters was small in scope. Nonetheless, the findings show that there are implications for teachers and learners. Understanding learners and their preferences and strategies to adopt a particular approach is important and beneficial for the teaching practitioner. Based on what I have found in this research, a number of recommendations for further research are proposed. First, that research into a larger population of students within the VET sector be conducted using a similar structure and data collection tools. My findings illustrate (amongst others) that the VET sector is an important area for research when considering aspects and conditions of learning for the VET practitioner. Secondly, that the Learner Centre Model be tested with a larger group of VET learners to verify or reject its purpose. Lastly, this research has implications for not only teaching practitioners and learners but for policy makers within the

VET sector. Getting the right balance and blend between effective and rewarding teaching and learning and demands from external agencies and policy makers is vital for learning outcomes. The findings of this research show that perhaps greater attention needs to be given by all stakeholders to the teaching and learning dynamics in order to move forward away from current modes of understanding and operation.

CONCLUSION

Based on the research there are four major findings.

1. The research has shown that claims that a DAVA will promote deep learning are at least doubtful. Factors such as the learners well developed learning preferences, issues relating to technology incidents and problems, and the teachers own level of skills, training and knowledge of the assessment task are critical in affecting the overall learner experience.
2. The research showed that the DAVA didn't inhibit participants learning preference. Learners enjoyed the DAVA and all commented that its impact was accepted within the parameters and conditions of their learning preference. Comments such as 'it was fun', 'it was different' suggested that the participants had an enjoyable experience with the DAVA. None said that it was onerous, complex or difficult. This, it can be argued was evidence that learners adopted their preferred learning style to interact with the DAVA.

3. Learners that exhibited a flexible learning preference adopted either a deep or surface approach which related to their motive and strategy. Based on the evidence some of the participants who were classified as surface by Biggs (Michael), midway between deep and surface (Amanda, and Lanie for example), changed to deep when doing the DAVA. The reason for the deep approach by these learners was that they had an enjoyable and rewarding experience and that the DAVA was an assessment task that suited their learning preference.

4. There are a number of practical implementation factors which may influence learners with a flexible learning preference. It was discussed earlier the effect of extrinsic factors that can either inhibit or improve the quality of the teaching and learning environment. Based on the evidence from the participants, it was found that a number of issues relating to the quality of the skills and knowledge of teachers, technology availability, quality and support (in relation to the DAVA) was influential in causing frustration and problems for learners. Some of the participants both deep and surface handled this issue in a manner that reflected their preferred learning style. Deep learners were shown to be more patient and forgiving than the surface learners. Midway learners were able to adjust their learning strategies to accommodate the technological problems. This finding highlights the importance of ensuring that the learning context is as free as possible from operational factors that have the potential to inhibit or deter learners from a quality learning outcome.

The Learner Centred Model (Figure 16) is proposed as a useful representation of the complexity of the learning environment. At the commencement of this Masters I believed that learners achieved more and were better served if they adopt a deep approach to their learning.

The DAVA was the vehicle I chose to test this belief. My view has changed. Based on what I have found, regarding, the role and importance that intrinsic and extrinsic factors including learning preferences play in the learning context. This means that there must be compromise, understanding and adaptation from both stakeholders – teacher and student. For the teacher this infers accommodating a range of learning preferences. The pedagogy aligned with this practice must be continually revisited, reinforced and reshaped within the educational setting.

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APPENDIX 1

REVISED STUDY PROCESS QUESTIONNAIRE (R-SPQ-2F), BIGGS (2001)

Response choices;

A – this item is never or only rarely true of me

B - this item is sometimes true of me

C - this item is true of me about half the time

D - this item is frequently true of me

E - this item is always or almost true of me

	Respondent to tick the column that is closet to their choice				
Question	A	B	C	D	E
I find at times studying gives me a feeling of deep personal satisfaction					
I find that I have to do enough work on a topic so that I can form my own conclusions before I am satisfied					
My aim is to pass the course while doing as little work as possible					
I only study seriously what's given out in class or in the course outlines					
I feel that virtually any topic can be highly interesting once I get into it					

	Respondent to tick the column that is closet to their choice				
Question	A	B	C	D	E
I find most new topics interesting and often spend extra time trying to obtain more information about them					
I do not find my course very interesting so I keep my work to the minimum I learn some things by rote, going over them until I know them by heart even if I do not understand them					
I find that studying academic topics can be at times as exciting as a good novel or movie					
I test myself on important topics until I understand them completely					
I find I can get by in most assessments by memorising key sections rather than trying to understand them					
I generally restrict my study to what is specifically set as I think it is unnecessary to do anything extra					
I work hard at my studies because I find the material interesting					
I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes					
I find it is not helpful to study topics in depth. It confuses and waste time, when all you need is a passing acquaintance with the topics					

	Respondent to tick the column that is closet to their choice				
Question	A	B	C	D	E
I believe that lecturers shouldn't expect students to spend significant amounts of time studying material everyone knows won't be examined					
I come to most classes with questions in mind that I want answering					
I make a point of looking at most of the suggested readings that go with the lectures					
I see no point in learning material which is not likely to be in the examination					
I find the best way to pass examinations is to try to remember answers to likely questions					

APPENDIX 2

INTERVIEW QUESTIONNAIRE

Digital Audio Video (DAVA) as an assessment task

Question 1 LEARNING PREFERENCE

Interviewee's

1.1 Age

1.2 Sex

1.3 Nationality

1.4 Education

1.5 What made you choose this particular course?

1.6 What are your goals once you complete this course?

Question 2 DAVA

How would you describe the experience of using the technology required for the DAVA?

Question 3 DAVA

3.1 Has being involved in this assessment task had an impact on your learning habits?

3.2 In what ways?

3.3 Can you give me some examples?

Question 4 LEARNING PREFERENCE

How would you describe yourself as a learner?

Question 5 LEARNING PREFERENCE

What type/s of assessments do you prefer and why?

Question 6 LEARNING PREFERENCE/DAVA

Do you consider yourself a confident person when it comes to technology? Please explain.

Question 7 DAVA

What did you like about the DAVA assessment?

Question 8 DAVA

What didn't you like about the DAVA assessment?

Question 9 LEARNING PREFERENCE/DAVA

Has there been any ongoing involvement with DAVAs?

Question 10 LEARNING PREFERENCE/DAVA

Where there any other factors (beyond William Angliss TAFE) that influenced your approach to the DAVA?

APPENDIX 3

RMIT HUMAN RESEARCH ETHICS COMMITTEE

Prescribed Consent Form For Persons Participating In Research Projects Involving Interviews, Questionnaires, Focus Groups or Disclosure of Personal Information

PORTFOLIO OF Design & Social Context Portfolio

SCHOOL/CENTRE School of Education

OF

Name of participant;

Project Title; Digital Audio Video Assessment; Surface or Deep Learning; An Investigation

Name(s) of investigators; **Simon Hamm** Phone; **0407145644**

(1)

(2) Phone; **98040435**

- 1) I have received a statement explaining the interview/questionnaire involved in this project.
- 2) I consent to participate in the above project, the particulars of which - including details of the interviews or questionnaires - have been explained to me.
- 3) I authorise the investigator or his or her assistant to interview me or administer a questionnaire.

- 4) I give my permission to be audio taped/photographed Yes No (delete if inapplicable)
- 5) I give my permission for my name or identity to be used Yes No
- 6) I acknowledge that;
- a) Having read the Plain Language Statement, I agree to the general purpose, methods and demands of the study.
 - b) I have been informed that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied.
 - c) The project is for the purpose of research and/or teaching. It may not be of direct benefit to me. The privacy of the information I provide will be safeguarded. The privacy of the personal information I provide will be safeguarded and only disclosed where I have consented to the disclosure or as required by law. If I participate in a focus group I understand that whilst all participants will be asked to keep the conversation confidential, the researcher cannot guarantee that other participants will do this.
 - d) The security of the research data is assured during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes will be provided to _____ (researcher to specify). Any information which may be used to identify me will not be used unless I have given my permission (see point 5).

Participant's Consent

Name; _____ Date _____
; _____
(Participant)

Name; _____ Date _____
; _____
(Witness to signature)

Where participant is under 18 years of age;

I consent to the participation of _____ in the above project.

Signature; (1) _____ (2) _____ Date _____
; _____
(Signatures of parents or guardians)

Name; _____ Date _____
; _____
(Witness to signature)

Participants should be given a photocopy of this consent form after it has been signed.

Any complaints about your participation in this project may be directed to the Executive Officer, RMIT Human Research Ethics Committee, Research & Innovation, RMIT, GPO Box 2476V, Melbourne, 3001. Details of the complaints procedure are available at; http://www.rmit.edu.au/rd/hrec_complaints

APPENDIX 4



Design and Social Context Portfolio

School of Education

Dear

My name is Simon Hamm

I am undertaking a Masters of Education at RMIT University. The title of my research is; Digital Audio Video Assessment; Surface or Deep Learning; An Investigation

The purpose of this research is to ascertain whether the learning strategies of students (using digital audio videos as an assessment task) can be categorised as deep or surface type learning. There will be no more than twelve students involved in the project. These students will be interviewed by me with a series of questions relating to the area of deep and surface learning styles of individuals. The questions are contained in two separate questionnaires; one relates to a well known and respected questionnaire called; The Revised Study Process Questionnaire (R-SPQ-2F) developed by Biggs. This questionnaire contains twenty questions using a likert scale. The second questionnaire contains nine questions which are opened ended.

It is hoped that the findings of this study may be of benefit to other teachers in developing learning strategies that incorporate the use of similar assessment tools and that take into account the learners particular learning approach, (be it a deep or surface one) and ultimately stimulate and motivate learners generally.

You have been approached because of your participation in the diploma of event management and your involvement with the digital audio video assessment.

Your involvement in this Masters project will entail completing the Revised Study Process Questionnaire (twenty questions) and then being interviewed by me for approximately thirty minutes. The interview will be taped and written notes taken during the session. The recorded interview will be used later to produce a written summary of the interview which you will be given to authenticate before the findings are used in the masters thesis. There are nine questions in the interview. In total the entire process (completing both questionnaires) should take an hour.

No other person will have access to any information gathered. At no time will your identity be revealed either by the procedures of the study or during reporting of the results.

Your participation is voluntary and you may halt the interview at any time and/or choose not to answer any of the questions. Following this interview a written summary of the audio recording will be validated by you the participant. The audio recording of the interview will be placed in a safe locked location of the investigator

for five years before being destroyed, together with all working papers and computer files which will be shredded and deleted.

If you have any questions or would like further information don't hesitate to contact me.

My supervisor is;

Dr Ian Robertson

Senior Lecturer, Vocational Education and Training RMIT University

Email; ian.robertson@rmit.edu.au

Phone; 61 3 99252613

Thank you

Simon Hamm - BA, BB, Dip Ed

RMIT University Swanston Campus

Phone; 98040435

Mobile; 0407145644

simonh@angliss.vic.edu.au

Any complaints about your participation in this project may be directed to the Executive Officer, RMIT Human Research Ethics Committee, Research & Innovation, RMIT, GPO Box 2476V, Melbourne, 3001. Details of the complaints procedure are available at; http://www.rmit.edu.au/rd/hrec_complaints

APPENDIX 5

DAVA Criteria Sheet

Subject Name:	RISK AND SAFETY & SECURITY Assessment Task 6
Title of Assessment:	<i>Assessment Task 6 – Safety and Security Digital Story of a workplace training module for new staff</i>
Teacher:	
Style of Assessment:	Digital File with images and audio
Procedure:	<p>The digital story must contain the following information:</p> <ol style="list-style-type: none"> 1. Opening slide with title naming the workplace and what the digital story is about 2. Photo of the student with an audio of their name 3. Photos and audio dialogue explaining and detailing their digital story 4. A minimum of 10 photos relating to the workplace 5. No more than 5 minutes of audio dialogue for the training module 6. An end slide 7. Students are to firstly use Microsoft Photo Story and then Microsoft Moviemaker to finish editing the digital story 8. Student are to include background music that suits the overall content of the digital story 9. It must be the students own voice on the audio part of the story 10. All photos must have headings detailing what the photo is about and any other relevant information <p>The training module must include the following elements:</p> <ol style="list-style-type: none"> 1. The name and overview of the workplace 2. Stakeholders involved in the workplace 3. Risks and OH&S aspects relating to the workplace 4. Insurance and legal compliance issues (permits, licenses) related to the workplace 5. Emergency situation control and traffic management 6. Site analysis 7. The employees duties and responsibilities 8. Access and egress control over the site 9. Volunteers and Event Staff briefings and running sheets and checklists 10. Overall Site Plan including a 'legend' of all facilities and activities carried out at the business
Due Date:	
Results:	It is your responsibility to confirm your results. Should you be required to resubmit any

	assessment, all resubmissions must be completed by . Non-compliance will result in a mark of N and you will be required to re-enrol in the unit/subject next semester.
Length/Word Limit:	N/A
Referencing:	Referencing must be completed correctly. (See Induction Booklet / Study Guidelines)
List of suggested readings and references:	<ul style="list-style-type: none"> • Refer to class and lecture notes - these can be found on TAFE VC • Note - Students will need headphones with attached microphone when doing this Assessment (Approx - \$10-\$25) and USB stick

APPENDIX 6

DAVA Mark Sheet

RISK AND SAFETY & SECURITY

ASSESSMENT 6

Digital audio video assessment training module for new employees

MARKING GUIDE

STUDENT NAME:

STUDENT NUMBER:

CLASS:

TEACHER :

1.

Completed outline and script	/50
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Total marks 1 -

Comments:

2. Presentation Requirements

<ol style="list-style-type: none">Opening slide with title naming the workplace and what the digital story is aboutStudents are to firstly use Microsoft Photo Story and then Microsoft Moviemaker to finish editing the digital story	/50
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3. Student are to include background music that suits the overall content of the digital story	
4. It must be the students own voice on the audio part of the story	
5. An end slide	
6. Photo of the student with an audio of their name	/10
7. Photos and audio dialogue explaining and detailing their digital story	/10
8. A minimum of 10 photos relating to the workplace	/10
9. No more than 5 minutes of audio dialogue for the training module	/10
10. All photos must have headings detailing what the photo is about and any other relevant information	/10

Total marks 2 -

3. DAVA Elements requirements

Comments:

11. The name and overview of the workplace– brief description	/10
12. Stakeholders involved in the workplace– brief description	/10
13. Risks and OH&S aspects relating to the workplace– brief description	/10
14. Insurance and legal compliance issues (permits, licenses) related to the workplace– brief description	/10
15. Emergency situation control and traffic management– brief description	/10
16. Site analysis – brief description	/10

17. The employees duties and responsibilities – brief description	/10
18. Access and egress control over the site	/10
19. Overall Site Plan including a 'legend' of all facilities and activities carried out at the business	/10
20. DAVA saved in required format	/10

Total marks 3 -

Comments:

TOTAL

/250

<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> NC

Due week 15