Authentic Learning through the use of Digital Video

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Abstract

Over the past decade, digital video has developed from an expensive, rather clumsy medium, to a cheaper, user-friendly medium with many capabilities that facilitate learner control. This development has given rise to a host of new applications in education, including the ability of students to capture, edit and generate their own video; a process supported and made viable by the development of clear and easy-to-use video-editing software. As a result, student-generated digital video is now being used in classrooms to support, extend, or change, pedagogy and curriculum outcomes. The project on which this paper is based studied the use of digital video in five schools, to study the ways in which pedagogy was enhanced by this use. One area we examined was how digital video developed authentic learning, and what in fact, this meant. This paper examines teacher and student beliefs about the perceived 'authentic nature' of student-generated digital video tasks and will present sample uses that develop understanding of authentic learning.

Introduction

Recent developments in information and communication technologies have led to expectations by policy makers, educators and students that new ways of learning will develop and that computer technologies have untapped potential for changing the nature of school education. One area which the authors of this paper believe should be examined regards a claim that ICT develops authentic learning. We believe that a shared understanding of authentic learning is needed, as well as clear examples of how such learning is developed by ICT. This paper aims to develop such understandings concerning one particular use of digital technology: *student-generated digital video* (subsequently referred to as *DV*).

Student-generated digital video: What has been done so far?

Searches of contemporary research literature revealed that extremely few studies have been conducted in Australia which focus on the learning that has occurred in schools through the use and production of digital video by students. There are a number of studies that look at student-generated digital video in Australian universities (Crean 2001; Ludewig 2001) and these studies are of value in informing the current project. These studies consider the learning outcomes of the activities and integrate the discussion on learning with discussion of the process used. However, few studies were found that investigated student-generated digital video in K-12 Australian classrooms.

The literature from the United States has a number of descriptions of teachers using student-generated digital video in K-12 classrooms for example, in the production by sixth grade students of digital videos for orientation of new students (Anderson 2002). Another paper argues the case for use of student-generated digital video to develop and share stories in fourth and fifth grade, with benefits of supporting structure and development of confidence in writing (Banaszewski 2002). Another example deals with the production of video in science classes (Thode 2001).

A recent report (Reid, Burn, & Parker 2002) considered the British Educational Communications and Technology Agency (BECTA) project on the use of student-generated digital video in fifty UK schools. In these studies student-generated digital video products were examined for the quality of the film-making, the final product and what the students had learnt about generating video.

The research study: Developing pedagogy using student-generated digital video

Our study sought to gain an understanding of the way that teachers and students interact and learn in classrooms in which practice using student-generated digital video occurs. A qualitative research paradigm was used in this interpretive study (Erickson 1986; Lincoln & Guba 1985) to develop a deep

understanding of these types of practices occurring in five case study classrooms. The case study schools investigated in this study were all schools that our collaborative industry partner had identified as schools that were implementing innovative and exciting approaches using student-generated digital video (see Kearney & Schuck 2003, for further details).

Method and techniques

Participants

Five case schools were selected across K-12 so that there were both primary and secondary schools and a range of curriculum areas and pedagogical contexts for the use of the technology. The schools comprised two state primary schools, one in NSW and one in Victoria, and three secondary schools. One of the secondary schools was a state school and the other two were both Catholic systemic schools.
The following table enlarges on the schools discussed in the paper:

NSW primary school	School 2
Catholic high schools	Schools 1 and 3
NSW state high school	School 4

Data collection

Data were collected in a number of ways.
a. Initial open-ended questionnaires for teachers and administrators to collect demographic information and views about administrative structures.
b. Observation of lessons using a semi-structured observation schedule.
c. Interviews with teachers and administrators and selected students in focus groups. Students were selected for these interviews by means of purposeful sampling (Bogdan & Biklen 1998).
d. Document and resource collection: Artefacts made by the students were collected as well as school documentation about ICT management, rationale and use.

Analysis

The story of each case school was constructed and developed from the multiple sources of data on that case. The case stories were then examined for trends and differences amongst the case schools.

Teacher and student perceptions on the authentic nature of student-generated digital video

One main theme to emerge from the project's data from all five schools was the 'real world', authentic nature of students' learning when they produce their own digital video products. We believe that authentic learning comprises learning in ways that fit with real world contexts, where the learning is motivated and developed by the context, and is also learning that develops skills and concepts for effective living in contemporary society now and in the future. This paper explores this theme using teacher and student perceptions and some sample cases. The teacher and student perceptions were ascertained from interview and questionnaire data, while researcher observations and document analysis informed the discussion of the samples.

The following sections illustrate views of authentic learning that arose in the project. All names used in this paper are pseudonyms.

Teacher perceptions

In this section we highlight the views of teachers regarding the authentic nature of learning using DV.

DV as a new vehicle for providing real world contexts in the curriculum and providing unique opportunities for communication

Nancy (teacher from School 2) suggested that the emergence of DV technology has enabled students to

produce high quality video clips:

> Digital Media is 'the real stuff'! Kids can make use of software and tools to create things that are of a professional standard. It starts with things they've seen within the world or within the media that they're wanting to model or they're wanting to put their ideas and experiences into that style of a presentation – a great thing for them to be able to do.
> (Interview with Nancy, Teacher, School 2)

She also mentioned that students' video-based products were very much 'in tune' with the real world and as such, could be utilized in relevant ways. Other teachers suggested that they used DV in their teaching was because "it is part of the world"!

Bruce (ICT coordinator at School 1) stressed that one reason he likes to use DV in his teaching is because it allows students to communicate a message in a unique way. For example, Helga (teacher from School 1) helps her Year 9 students to film small drama scenes in class and place their own French commentary in the background of the clips. She plans to send this work to a French school for feedback and as a basis for communication. Nancy also saw fresh advantages of using DV for communicating students' ideas in new way: "Digital video is a new way of talking about ideas, setting scenes, influencing people, emotional … pulling music into it etc. It can contain big ideas for kids to work with."

DV as a vehicle for developing relevant skills and contemporary media literacy

Many teachers expressed the importance of students developing useful technical skills through their DV tasks. They often emphasised the importance of the task *process* here and placed less importance on the final *product*. In her interview, Penny (teacher at School 4) noted that she could easily observe the actual learning outcomes relating to improved filming techniques and commented that students often learned about what techniques were appropriate after they observed their filming. Both Penny and Karen (School 4) emphasized students' movie making skill development as highly relevant to their potential work-related activities on leaving school. Rory (teacher in School 3) described his belief that DV work can act as a catalyst for improving students' general attitude to ICT. He believes that because kids find DV exciting and easy, they can "turn kids on to computers and what they have to offer."

Many teachers thought that a major reason for using DV tasks in their classrooms was the subsequent development of students' ability to make sense of the video medium and to critically analyse film from the world around them. Karen had her Yr 10 English students filming and constructing an *iMovie* of *what and how* they were learning to enhance their metacognitive skills. Jill (School 2) used a News context for her Kindergarten students' use of DV. She noticed that this work "… helped eliminate students' fear of being filmed and help them to understand and demystify how technology works." She also believes that her kids have become more analytical of films and advertisements.

Many teachers in the study took advantage of the students' familiarity with the medium, using real Hollywood films and TV shows as models and sources of inspiration for their students. For example, Penny used sections of the movie *Toy Story* to point out special effects and make students aware of ways to produce acceptable movies. Rory's Year 10 class used the film *Monsters Inc.* in their lesson on storyboarding. This film has its own storyboard at the end of it and the students looked at the storyboard of the film and discussed reactions to it. The influence of the Channel 7's news bulletin was obvious in the Year 10 History students' production at School 3 (see a discussion of this example later in this paper). A Year 10 RE class in school 3 received ideas for their dramatization of the Moses story from old films on this subject.

Student perceptions

Peers provide an authentic audience for students' DV work

Many students showed a noteworthy awareness of their peers as the intended audience for their films. They commented that having their peers as the main target audience provided them with an incentive to make a worthwhile film and an opportunity to use appropriate humour. Jackson and Jenny's comments were typical here. (They were Yr 10 History students who made a film about the 1967 referendum – see later for more details.):

Jackson:	It was for an assignment, so we had to convey that information about the referendum.
Jenny:	But we tried to do it in a way that would allow people [their peers] to understand, rather than just read a report. Just the way that they knew people their age would understand it. Also to be funny.

Indeed, the researchers noticed this awareness was a strong influence on the way that student authors set up their movies. For example, in the same interview, David described the reason they chose the News genre for their movie:

David:	… It was really flexible and there were all the different techniques we could use, but in the end, we used it as a news report. This was a familiar form, because a lot of people watch the news every night, so this would make it more interesting for them as they would recognise that format (Channel nine news music etc).

The group knew the News format would be a familiar and comfortable one for their peers' viewing. Indeed, students seemed to appreciate the opportunity to communicate with their peers via the video medium as an alternative to a 'live', whole class presentation. They believed that the video alternative reduced the anxiety of a live class presentation in front of their peers and improved their performance. For example, Ashleigh (Yr. 7 student from School 1) mentioned in a student focus group: "Presenters do not need to get nervous as initially, the presentation is just in front of their friends for the camera. People are a lot better at doing them [a film], as they are in front of the camera and not in front of the whole class. Everything can be prepared beforehand and the product displayed for the class. They then do not have people laugh at them. " Indeed, Sarah (Yr 8 student from School 1) believed that knowing her peers were going to look at her production motivated her to understand the (French language) content of her project: "It helps you to learn because if it goes up on the TV then the people [peers] really have to read it to understand what you're saying." Students appreciated the extra time they had to edit and refine their video presentations and this enhanced confidence as they communicated their message to peers 'through the lens of the camera'.

Filming peers and viewing oneself on a video clip is motivating due to the authenticity of the experience

Students were also acutely aware of the people they were filming. The researchers observed many filming episodes through the five case studies covering footage of both people and inanimate objects but students were generally far more motivated when filming their *peers*. Two Yr 7 students from Helga's French class (School 1) made the following perceptive comments:

Sue:	The pictures represent you … It's better 'cause it's a picture of you, and you also have fun as well doing it on the camera.
Jane:	Yes - they [the pictures] show your own personality.

In their focus group interview, Penny's Yr 7 students (School 4) stated unanimously that their favourite DV production task at school was filming friends acting. Karen (who also teaches Yr 7) agreed with this perception and she had noticed many times that her students love to see themselves and their friends on the screen and this contributed to the authentic nature of the tasks.

DV is 'not work' but is a real-world activity that develops useful skills for the future

A strong theme to emerge from the student focus groups in all five cases was the almost widespread student perception that DV tasks were *not work* but 'fun'. Perhaps this was because most students had used a family-owned video camera at home in a recreational context but this perception emerged frequently throughout the project. Sue (Yr 7 student Helga's French class at School 1) thought DV tasks "help you to learn, because if it goes up on the TV then the people really have to read it to understand what you're saying." Peter (a Yr 10 student from School 3) liked having to act for a video camera, believing that the video made him think "…by playing roles you have to get into the story to understand. You can't just read about it."

Penny's Yr 7 IT students liked learning about technology, learning for the future, interacting with friends and learning to direct. They realised that they could practise these skills and might be an actor or director one day. One student recognized the usefulness of his new movie making skills to his future: "It [DV] will help you in later life – for example, as an electrician or photographer."

Sample cases: Student-generated DV with a 'news production' context

We observed many contexts for using student-generated DV across most KLAs over the five case schools. This section will discuss just two uses of a *News Production* context across a range of age groups and schools. These samples support the previously discussed students' and teachers' comments about the authentic and relevant nature of DV work in the classroom.

The year 5/6 group (School 2): Producing the school news

This project involved approximately 20 senior primary students (all volunteers) who form an editorial team who prepare and publish weekly news items on the school's intranet. The team meets regularly to discuss possible items and write about the things that are happening in the school. The students are responsible for both content and technical stuff and do their own filming, editing, spell checking etc. The children have a variety of roles, including technical officer, interviewer, writer of technical tips ('Toby's Technology Tips') and sports reporters. Some jobs are done individually and others are done in little teams.

Video clips are used to capture a variety of events or episodes. The students use *iMovie* to edit their videos, including commentary and text additions. The students mentioned that they receive ideas from things they have seen on TV, News Movies, special effects, digital animation etc. The students like to modify those ideas and see what happens. The final production is placed on the school's intranet.

There were numerous noteworthy aspects of this project. It was an excellent simulation of a real world (News) production team that potentially involved the whole school community. The main audience was the school community, especially other children in the school. The level of teamwork was high, there were clear roles and the students were generally independent in these roles. The students appeared to receive minimal support from the teacher or librarian and indeed, Nancy perceived her main teaching role as a 'sounding board' for students. The children involved in the project were keen to expand it and link up with other schools around the world to share surveys, videos and make comparisons.

The year 10 History group (School 3): News bulletin production on the 1967 referendum

Yr 10 History were studying the 1967 referendum on whether Aboriginals should be included in the census. They were asked to make a presentation on this topic using the medium of their choice and one group chose to present their assignment using *iMovie* to make a DVD on the topic. They requested assistance from Rory, and worked on the production both in and out of class time, often coming to Rory's computer lab during lunch. They scripted and acted, filmed, and edited in *iMovie*. They put in various effects to add to its professional appearance. They then copied it onto a DVD to show their class.

Their final production was a slick 10 minute DVD production involving the group's leader acting as the newsreader 'at the desk' of the Channel 7 news (set in 1967). During their news bulletin, they staged 3 interviews 'in the field' to probe pertinent issues surrounding the referendum. Students acted as reporters and interviewees. They blended an impressive range of historical facts and appropriate humour (usually playing on the 1960's 'hippie' era) into their presentation.

A noteworthy aspect was the students' initiative in presenting their assignment in this way, and the motivation, enthusiasm and learning that was evident from doing this project.

David (one of the students in the group) explained that the News format was a familiar one to most of their peers and they were very concerned about effectively communicating their idea to their peers. He later explained the 'neutral', unbiased nature of the news reporting genre that allowed them to be impartial in their presentation of the topic: "We tried to give both points of view - it came from both ways. It [their production] had a point of view from the average person who did not really like it and there was that this would be a break through and this would really happen."

Discussion

The examples discussed here show clearly the meaning of authentic learning in a number of different contexts and also demonstrate the value of such learning. Almost all DV tasks that we investigated were student-driven and incorporated a high degree of student autonomy, two of the characteristics of authentic learning. Students appreciated this 'play and experiment' approach and the chance to take some initiative with their DV tasks. Generally students thought the whole DV production process was "fun" because they could use and control the camera, make their own movies and they seemed to appreciate the ability to play and experiment by themselves. This heavy emphasis on student initiative was congruent with the teachers' perceptions of the tasks.

Another aspect of authentic learning that was obvious here was the way that students gained feedback on their work. Often the students' best and most immediate 'feedback' on their work was their viewing (either via the small camera screen or later, on the computer) of their own films. This way of learning about their work is in direct contrast to other methods of deferring to a supervising teacher or other "expert". Students developed skills in evaluating their own work. For example, one student liked being to see "how good I am in doing it" and another liked the fact that you could check if the pictures were OK immediately using the mini screen on the camera. A Year 7 student showed a mature insight about DV work: "it is the self-feedback- you can replay video easily and see what you've done and how you can improve it." These sentiments were congruent with teacher comments on the value of student generated digital video for students' learning about their learning.

Finally the importance of audience was clear from the comments of students at a number of schools. It appears that knowledge of audience was central in choice of themes, language, props and ways of presenting information in the videos and also motivated the students to present high-quality, humourous and realistic work.

Conclusion

The cases we have discussed here, together with the beliefs and perceptions of both students and teachers clearly indicate that digital video can be used to develop authentic learning. Students design their own projects, produce them and evaluate them. Many are motivated by this process, particularly if their peers are the target audience. Student autonomy in the use of DV was obvious, skills in visual and digital literacy were enhanced and many students appeared to feel that what they had learnt using DV would be of value in their post-school years. We feel that further investigation of such usage will continue to develop understanding of authentic learning and the role of DV to promote it.

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