Digital Drama – Toolkits, dilemmas and preferences

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Artists and educators who work with young people are often under pressure to consider ways to embrace the use of digital technologies in their practice and classrooms. Drama educators are faced with a number of opportunities and dilemmas as they move to adopt a greater technology focus. This article will outline some findings from international research about young people and ICT use, and specific considerations for creating drama using digital media and online spaces. It also outlines an example of a school based cyberdrama project entitled *The Immortals*. The specific toolkits students required for engaging in digital drama are identified, with a number of different ICT skill-sets becoming apparent, as well as drama-specific knowledge, social and relational skills and reflective practice. Student responses are analyzed and different preferences for creative practice reflected upon.

Keywords: Digital technologies, cyberdrama, ICTs, drama education, creative practice

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This is an era where longstanding institutions, schools and communities are grappling with and embracing a range of new technologies. With the changes to technology also come changes to social structures, ways of thinking and, new forms of expression, of art and of being. As new digital media and online communications tools have become available, more opportunities for young people to engage in creative practice have also become available. However there are a range of competing and, at times, contradictory discourses at play about the use of digital media and the use of Information and Communications Technology (ICTs), especially in school settings. For drama practitioners there are also questions to be asked about what forms might be relevant and what practices and toolkits are required.

This article will outline some findings from international research about young people and ICT use, considerations for creating drama using digital technologies and online spaces, and an example of a school based cyberdrama project. As an educator who has worked in the field of drama education for over twenty years, I have been curious about how various ICTs and technologies can be utilized in drama to support significant engagement, creative practice and learning. My first cyberdrama project set out to explore how it might be possible to create an on-line drama that utilized cyberspace as the site for its enactment. This became the online drama *Cleo Missing* (Davis, 2006a, 2006b). Since the conclusion of this project, I have been involved in doctoral studies and facilitated three other cyberdrama projects working with young people (Davis, 2009, 2010). In developing these projects I have worked collaboratively with teachers, students and young people using a form of interactive process drama.

This paper draws on findings from these projects with a particular focus on one school-based drama project (*The Immortals*) which incorporated the use of digital technologies and online spaces. The related research took the form of a qualitative case study using a cultural-historical frame of analysis drawn initially from the work

of Russian theorist Lev Vygotsky. This cultural-historical framing emphasizes that learning processes involve social interactions and engagement with more knowledgeable others, various tools, media and the wider culture (Vygotsky, 1930/2004, 1978, 1998). The specific branch of cultural-historical theory I used was Activity theory (Cole, 2002; Cole & Engeström, 1993; Engeström, 1987, 2003; Engeström, Miettinen, & Punamaki, 1999). This theoretical framing was identified as useful for analyzing the nature of learning in collective projects utilizing an ICT intervention, providing the means for exploring interactions that occur across an activity system and a consideration of contradictions and outcomes. Data collected throughout the projects included interview transcripts, journals, fieldnotes, surveys, computer-mediated communications and video footage of creative works. The data was coded and analyzed, with a focus on identifying aspects of engagement, interaction, learning and the impact of ICTs. Research ethics processes were undertaken and ethical clearance approved using Australian National Ethics Application processes and education authority processes. To secure approval to conduct research in schools an information and consent package was provided to students, their care-givers, teachers and school principals. On the student consent form, students were advised to not use their actual names, school name or identifying information in any Internet interactions (outside of the school's e-learning platform). Names of schools, students and teachers were changed and pseudonyms created for all publications arising from the research (apart from the teacher involved in this case study who requested that her actual name be used).

Generational change – young people and technology

A range of reports, books and articles clearly document this generation of young people as experiencing a generational shift of culture (McQueen, 2007; Net Ratings, 2005; Prensky, 1998, 2001; Roberts, Foehr, & Rideout, 2005; Rushkoff, 1997; Tapscott, 1998; Twenge, 2006; Zemke & Filipczak, 2000). At the heart of this shift is access to and use of a range of Internet-based and mobile communications technologies, with related shifts in social practices. A growing body of research focuses on the use of digital technologies and the Internet by young people. Some significant findings have emerged which problematize assumptions about young

people as 'digital natives' and the typical focus of many ICT based programs. Prensky's (2001) concept of digital natives referred to children who have grown up in a world that has always included the use of the Internet and various digital technologies. These digital natives therefore use digital tools as if native born, whereas those from older generations, while they may become proficient in digital tool use, speak with an 'accent' and are like 'immigrants to this digital landscape. This term has been popularized since and is often used to describe all children and young people with related assumptions about young people and assumed 'native' facility with digital technologies.

Livingstone, Hasebrink and others (Hasebrink, Livingstone, & Haddon, 2008; Livingstone, 2008; Livingstone & Bober, 2004) have been involved in a number of major research projects in the United Kingdom and for the European Union and have investigated Internet and media use by young people (up to 18 years). Some relevant findings include a rethinking of assumptions that all young people use the Internet more than adults and are more proficient in that use. Livingstone has elaborated on how many parents and children celebrate children's superior computer and Internet skills, but that these skills often relate to quick, competent use in a narrow range of sites or applications (Livingstone, 2008). Through empirical research, she has identified how, when young people are required to move beyond these applications, many have limited skills for working out how to use new ones.

Research about the use of ICTs and the Internet for user-generated creative content development is also of relevance to youth arts workers and educators. What the EU research identifies is that user-generated content creation participation is less common than use of the Internet for information-searching, entertainment or social networking. The research suggests that children climb a "ladder of online opportunities". This ladder begins with: "information-seeking, progressing through games and communication, taking on more interactive forms of communication and culminating in creative and civic activities" (Hasebrink, et al., 2008, p. 116).

In the United States, major research includes that conducted by the Kaiser Foundation (Roberts, et al., 2005), the MacArthur Foundation (Ito et al., 2008) and the ongoing PEW and American Life Project (Lenhart & Madden, 2005, 2007). This research documents the increase in young people's Internet use, recognizing its place in relation to young people's ongoing use of traditional media. MacArthur Foundation ethnographic research and PEW research highlights the popularity of online social networking sites with teens, particularly by girls. This research highlights the significant use of the Internet for communications and friendship-driven practices; with most young people using these sites to associate with people they already know offline (Boyd, 2007; Ito, et al., 2008). Research around content creation identifies one third of online teens (aged 12-17) reporting they have shared online self-authored content including artwork, photos, stories or videos - with girls more likely to share original content than boys (Lenhart & Madden, 2005).

A concern regarding young people's Internet use, often expressed by government authorities and researchers, is related to risks children and young people are exposed to online and how to protect them (Australian Communications and Media Authority, 2009a, 2009b; Hasebrink, et al., 2008; Net Ratings, 2005; Ofcom, 2008). International research has indicated that those young people who engage in high level Internet use do experience increased exposure to inappropriate content and unsolicited social communications, and therefore a higher potential for risk. The response by most governments and schooling authorities has been to protect young people from unwelcome communications by limiting and censoring Internet access, particularly within schools. This restricted Internet access generally also means restricted access to sites which allow social networking and content sharing (through sites such as *YouTube*, *Flickr*, *Facebook* and so on). It is noted in the E.U. research that reducing risk at school also reduces opportunities (Hasebrink, et al., 2008).

These shifts in technology and culture present drama educators with a range of opportunities and threats. Digital technologies, Internet-based communicative and content creation applications can provide students with new ways to engage in

creative practice. Many of the uses of computers and the Internet that are perhaps of most relevance to drama education (content creation, social networking and communications) are restricted in school contexts because of concerns for student safety and behavior. It would appear that not all students are necessarily as familiar with content creation applications of technology as common digital native discourse (Prensky, 2001) would suggest. Therefore to restrict access and educational engagement with content creation and social networking tools means an exacerbation of the digital divide for some students. The use of ICTs within drama can include a focus on conducting research and writing (similarly to other curriculum areas) and the use of digital imagery and audio to complement the performance aesthetics. I have been interested in exploring processes and forms of drama, which might use the potential of the Internet, online spaces and interactions for creating and sharing dramatic work.

Drama in a digital age – unpacking cyberdrama

Some of the key elements of drama such as the role creation and narrative are evident in many media forms and on the Internet. In drama, the overlay of purpose, frame and audience is important (Esslin, 1987; O'Toole, 1992). The notion of audience appears to be essential to many young people online as well. The framing of the experience and the potential for an audience heightens experience and provides a sense of being in the world (boyd, 2006, 2007). How ICT-based opportunities can be utilized to facilitate drama in school contexts presents ongoing challenges, which drama practitioners have been exploring for some time.

An early work by Neelands (1993) identified the need to focus on different kinds of human interaction through technology. Through practical and theoretical work Anderson, Carroll and Cameron have since driven a number of research projects in school and university settings and published key texts in the field (Anderson, 2005; Anderson, Carroll, & Cameron, 2009; Carroll, 2005; Carroll, Anderson, & Cameron, 2006; Carroll & Cameron, 2003, 2005; Carroll & Cameron, 2009). *C & T* (the name of a performance company) from the U.K. is a drama and media education group who

works in school contexts and have conducted a range of projects including the *Living Newspaper* project (see case study in Carroll, et al., 2006) *Lipsync* and *Historama*. Their projects feature the creation of mediated 'dramatic properties' which are used to engage young people, and involve them in creating dramatized work which is captured and shared in different digital forms. Nicholls had created an e-learning course about theatre history (Philip & Nicholls, 2007) and used blogging for student playbuilding work and forums for conducting theatre critiques in communities. Raphael managed a major multi-user project whereby individual students and drama groups could use blogs to document their playbuilding and reflective processes (Drama Victoria, 2006). Flintoff (2005) has been an enthusiastic ICT leader in the drama education field experimenting with a range of different ways to utilize computer technology in drama including work in *Second Life* (Flintoff, 2002, 2003, 2006, 2009; Flintoff & Sant, 2006). Jensen (2008) in the US has explored processes combining drama, mediatized performance and production and found that this additional frame can increase young people's sense of participatory citizenship and community involvement.

What this research and practice has documented includes the use of online and virtual spaces to learning about and see various forms of drama, to talk about drama and to create and share drama. This work has also explored how forms, conventions, and processes drawn from drama education (such as process drama, Heathcote's 'mantle of the expert' and so on) can be adapted and effectively used in mediated processes and cyberspace. What I have been interested in is the way that cyberdrama or interactive process drama may be created and enacted using pervasive (or common place) technologies and cyberspaces to build roles, dramatic action and performance. The creation of drama in this way can be used to support live interactive processes or can be seen as a form of drama in its own right.

To consider the possible forms of drama, which may be developed and realized through digital spaces, it is useful to consider the concept of *cyberdrama*, and key features identified by Murray. In her seminal work *Hamlet on the Holodeck: the Future of Narrative in Cyberspace*, Janet Murray described cyberdrama as a

reinvention of storytelling through digital story forms, using different formats and styles that allowed for participation (Murray, 1997). Features of cyberdrama may include participants taking on role, engaged in a fictional world with the potential for interaction in the development of a story or narrative in a digital space.

It has been proposed that the principal form of cyberdrama that has emerged is the massive online role-playing games (such as *Myst* and *World of Warcraft*) as well as other kinds of computer games (Wardrip-Fruin & Harrigan, 2004). In considering what may qualify as cyberdrama a consideration of the distinction between games and drama may be useful. Chris Crawford was a games designer who now creates interactive stories. He says that games focus more on what you do with objects, whereas stories are about what happen to people (Crawford, 2005). So perhaps cyberdrama can be simply defined as stories about people performed on the Internet or through cyberspace.

These kinds of dramas can be realized in a range of ways from text base chats and interactions to 3D persistent, virtual worlds and avatars. I have been interested in exploring the creation of narrative based drama online, or what are also called *webseries*, *webisodics* or *cybersoaps*. These involve creating digital video and audio clips and building and complementing the world of the drama through role building and sharing content, including synchronous and asynchronous communications such as blogs, wikis, forums and online chats.

This participation can occur in different ways, from participants being co-creators of content that is posted and developed, through to mainly experiencing the drama as an audience, but with the possibility for commenting or responding to the work. In his extensive review of different kinds of digital performance Dixon (2007) identifies four different kinds of interactivity which feature in various interactive art and performance pieces: navigation, participation, conversation and collaboration (Dixon 2007, 563). While the first two types of interaction (navigation and participation) tend to suggest engagement with the computer or system, the last two (conversation and collaboration) require interactions between people, between active human participants collaborating to build a creative world or product.

One of the key issues for developing this form of interactive drama is the management of the process and what are often seen as the competing demands of creating satisfactory narrative as well as engaging interactive experiences. In human terms, it is about balancing the control and management constraints with scope for participant input and freedom. In the literature about interactive drama as well as traditional process drama, it has been identified that a person or a program function (for an artificial intelligence system) needs to take on this role. This has been variously called the 'playwright function' (Laurel, 1993), the 'drama manager' (Crawford, 2005) or in traditional process drama, the leader or 'teacher in-role' (Haseman, 2001). The enactment of an interactive process drama relies on the playwright function being maintained by a person or group who set certain parameters for the drama. They then weave together the various narrative threads that participants may contribute. This playwright function benefits from having knowledge of dramatic content and processes including narrative typologies, dramatic genres and styles and character. The management of the process draws heavily on improvisational techniques such as the making of offers, accepting and extending (Johnstone, 1979; Pierse, 2007). Dramatic knowledge needs to be utilized in combination with skills in the management of interactive processes and multi-media content development – bridging the live and mediated experience.

To plan and structure these dramas, interactive frameworks can be created which draw on aspects of process drama. Interactive or process dramas use an open form and structures which allow for participant engagement and creativity. In these forms, roles such as playwright, actor, character and spectator are blurred (O'Neill, 1995; O'Toole, 1992) and any pre-determined frameworks should allow for narrative exploration and development, as well as elements of user or participant agency. These principles underpinned the planning and processes for used for the cyberdrama project described in the following section.

***The Immortals* interactive process drama**

The Immortals project was situated within the formal curriculum for a Drama subject in the middle secondary school years. The aim for this cyberdrama unit was that it should provide students with experiences in an emerging form of drama utilizing technology and multi-media in a variety of ways. In particular, this project would use cyberspaces, e-learning platforms, and forms of contemporary performance. I worked in collaboration with the classroom teacher to plan the drama and link it to work about the future of the human body being explored in another science-related curriculum area. The teacher led the classroom process; I set up the online spaces, creating scaffolding documents and teaching materials to support the classroom process. We communicated between each lesson by phone and email and planned the next step of the project each week. We also both worked in role alongside students, both in live and mediated performance contexts.

The use of a process or interactive drama frame impacted upon the nature of activity. Students were invited to respond to a digital pre-text through working in small groups of 3-4, initially creating one character per group. The developing narrative was shaped through a set of structured activities that required the groups to collaboratively create digital texts (including video clips) in response to four module tasks. Scaffolded tasks began with a fairly simple multi-media task, creating a video log, with the focus on one character. The multi-media and drama requirements become more complex as the modules progressed: module two was a news/current affairs report, module three was a metaphoric or symbolic piece, and module four invited students to contribute to a final performative outcome and resolution to the drama.

The teacher and I reviewed the responses from students each week before determining the next stage, reflecting on what had happened in the drama and where it might go next. In doing so, we tried to build and extend on the offers students had made in their work. This indicates an attempt to develop dialogic processes and provides agency and power sharing opportunities for students. To

help provide more of an insight in to how the drama developed, the following account outlines the drama, characters and storyline that emerged.

***The Immortals* drama synopsis**

This next section narrates the drama process, with classroom activities describes in italics and the events within the drama in plain text. The account is organized according to the four modules the project was organized around.

Module 1 – enrolling in the drama

A number of people, unknown and unconnected to each other receive an unsolicited email. The email suggests they have been selected to become immortal and they are invited to respond and to join through an online site. *At the beginning of the lesson students were sent an email that included the teacher-created pre-text in text form, with a link to a video clip. Students were formed into groups and provided with a blank character profile. They then created one character per group and decided upon a response to the invitation to be shared through a video log and blogging in role.*

Six different people (one character created by each group) respond but interpret the invitation in very different ways:

- TJ is a middle aged woman who dresses and behaves like a teenager – she believes *The Immortals* is an exclusive dance club and so joins immediately,
- Marixa is a devout Muslim and believes that the invitation is a message from God and so joins,
- Alice is a poet with a mysterious background; she does not talk but only writes notes. She is not sure what it means but joins out of curiosity.
- Keeley is a mime student currently studying in Paris. She is suspicious and not in a rush to join,
- Zaiph is a student as well, and he thinks the invitation is some kind of practical joke or prank and is also suspicious,

- The geek girls are two sisters who look after their bed-ridden mother. One of them receives the invitation which is meant for the other and accepts as she obsessed with entering competitions.

In class, students interrogated different accounts of immortality in various religions, throughout literature and scientific discourse. They also investigated ways to develop interesting characters and share these through video logs.

Module 2 – the news is out

Each of the groups was asked to consider how a news or current affairs story involving their character might emerge. They could create other characters and further develop their central character's narrative through interactions on the blog and wiki.

Some of *The Immortals* start to talk to their friends about the invitation and various media outlets begin to investigate the story. There are some mysterious events, with one of the geek girls possibly testing the immortality status when she is in an accident involving a truck. In another case, Keeley's friends are interviewed on the news but the speech is strangely out of synch and appears to have been tampered with. One news broadcast is then interrupted and a darkened face appears and announces that machines are now in control and are taking over.

After noting some students' sense of confusion about where the story was going and some expressed feelings of group isolation, the teacher and I decided to run the next lesson as a whole class role-play with us entering in new roles. This session was videoed and content edited and posted online. Many students reported at the end of the project that this was the best experience of the unit.

Two women dressed in black (the teacher and teacher/researcher working in role) visit a number of students. They claim they are from a government-sponsored organization entitled 'Control', and they wish to interview students who are friends

with some of The Immortals. The agents say that the Immortal virus was a top secret government project that has now been sabotaged. They ask the student agents to work with them to help find *The Immortals*. The students reluctantly agree to help. They are invited to attend a meeting one evening and bring along their knowledge and *The Immortals* if they can.

Module 3 – there’s something strange about....

A video clip is posted online (*and shared during class*) that invites all *The Immortals* to attend an important meeting. Each one responds in different ways and post poetic and metaphoric video clips. TJ sees a mysterious character leaving her home and arrives home to find her daughter has drowned. Marixa believes that perhaps the request is asking her to give up her moral life. Keeley is confused and angry but decides to attend the meeting, as does Alice. Zaiph, feeling scared and powerless, decides to give up resisting and to finally join *The Immortals*.

Out-of-role the class maps what has happened to date through the material posted online and through class experiences. They consider where the narrative could go and how it could be resolved. They contribute ideas about the staging of a final performative sharing of work with parents and friends.

Module 4 – the performance and *Immortals* meeting

The audience (of parents, other school students and friends) is greeted at the door and thanked for agreeing to help with investigations. They are asked to sign in, to provide their mobile phone numbers and to leave their phones switched on in case important messages come through. As the audience enters the briefing room (performance space at school) they are invited to join various student agents and view specific case materials (on laptop computers and in printed form in folders). *Students had helped prepare folders of information about their Immortals character, using print-outs of wiki pages, blog posts and so forth.*

The two student hosts invite participants to share what they know of the events so far. Various video clips are shown and student agents speak out about what they

know of each of the Immortals. An online chat documents the discussion and agent responses.

Mobile phones beep throughout, but few audience members respond to the messages until asked by the hosts to read out their messages. Apparently some of *The Immortals* who said they were not attending are in the room. Marixa connects through an online link and says that she is ending her mortal life.

Mysterious messages and images start to appear on the online chat from beings that are not in the room. One unknown user claims to be “The One” and that the ‘energy’ is now in control. They are using the Internet as their energy source.

Alice starts to throw messages out to the audience (though people don’t tend to read them) she is trying to warn them about the machines and urging them to escape. Other Immortals start to realize that while the computers are on, the machines are potentially in control. Zaiph and other Immortals call out to people to get out and there is a black out with the lights going off in the room. When the lights come on the computers screens are in darkness and *The Immortals* have escaped.

Use of technology-based tools and online spaces

Throughout the project students engaged in using a range of ICTs and online spaces. Most of the online spaces used by students were within the education authority’s e-learning platform called the *Learning Place*. This included use of the Blackboard e-learning system and related wiki, blog, project room and online chats. Students had some restricted use of *YouTube* and a *Ning* social networking space. There were other spaces on the *Blackboard* site that included details about the task modules they had to complete and links to other websites and resources. Students could interact with these spaces to access material, but they were not able to edit or contribute to these administrator managed content spaces. A significant factor that impacted on the project was the restrictions placed on student Internet use at schools and the blocking of access to social networking sites such as *YouTube*,

Facebook and *Myspace*. Whilst students could upload their own material to the endorsed educational e-learning platform (i.e. *Blackboard*) only the teacher could access any of the social networking spaces and YouTube using the school network. What was apparent was that the kinds of tools and spaces that students were familiar with using outside of school hours, were problematic for use within an educational context. The enactment of the activity required a division of labor which saw teachers/leaders playing a gate-keeping role in moderating and uploading material that could be shared with any wider audience beyond the class group and school intranet.

At the end of the project, I sought to ascertain student perceptions about the use of these different spaces and technologies. The information was obtained through student completion of a survey. One of the sections of this survey included questions about the use of technology and cyberspaces. These questions were presented as Likert Scales with students being asked how they felt about engaging with different spaces and technologies. A five point scale was included with 1 indicating “it wasn’t effective” through to 5 indicating “it was very effective”. The data from these surveys were collated and an average response calculated for each question (see Table 1). This data indicated that students felt the most effective technology use involved the video recording technology and posting material to *YouTube*. These uses of technology are those that relate to creating and making, drawing on cultural tools and practices in the form of multi-media literacies. The interest in *YouTube* was notable considering that students were not able to post the material to *YouTube* themselves – the teacher and I did that.

Table 1 Student opinions about technology use for *The Immortals* project

Summary of Immortals technology use – Likert Scale responses N = 13	
Technology/cyberspace used	Average Response (1 lowest, 5 highest)
Incorporating video and technology	4.5
<i>YouTube</i>	4.5

Wiki and blog spaces	4.2
<i>The Learning Place</i> overall	4
Project Room (with chat)	4
Story	3.8
Relevant materials	3.3
<i>Ning</i> space	2.9

Comments from the debrief focus group interview attended by most of the students elaborated upon these preferences with students indicating that through *YouTube* they may find a wider audience for sharing their work. This is a possibility that they find most exciting about the use of the Internet in relation to performance work:

Lexi: I think it's making drama more accessible for more regular kinds of people, not just actors and actresses. So you can be at school and writing your script, and then make it, like your own movie, and put it on *YouTube* and everyone can watch it and respond. (Interview transcript, 4 December 2008, lines 49-52)

Dylan: Cyberdrama makes it easier for you to say write a show, and then rather than have to go and find funding for venue hire and these things [needed to stage a show], now you can just take your friends and a camera and go film it and put it on *YouTube*. Who knows, you might get an offer to do it in a full size venue. (Interview transcript, 4 December 2008, lines 54-57)

Some students saw this as more attractive than the restricted audience and access that resulted if they only used the approved spaces within *Blackboard*. The narrowing of the audience to their class group only indicated a lost opportunity in their eyes:

Eliza: Because the sites we had to use at school, they were like, limited to just us. *Blackboard* was just us, you had to log in to use it and log in to get the information. Nobody else could just be surfing the net and

find it. Nobody could engage with *Blackboard* except just us. (*The Immortals* debrief transcript, lines 538-541)

Of the online spaces used on *Blackboard*, the most positive response generated was towards the use of wiki and blog spaces. These were the spaces that allowed participants to create and collaborate, where they could build their character profiles and respond to the developments of the story in-role. What was evident for *The Immortals* online interactions was that they were mainly based on building role, with making offers and extending upon them. Those spaces that held information and links to other sites and materials, and did not allow students to contribute or impact on content, rated the lowest.

Different toolkits beyond the technological

From the start of the project, the teacher and I began with an understanding that whilst the use of technology was a major focus for the unit, it was not the only one. We identified the need for scaffolding learning about relevant drama forms and skills, digital literacies and around the *idea* for the work (immortality and the possibilities opening up through scientific advancements. We also knew that students would have to draw on group interaction and social skills to be able to engage in the project.

What became evident as the project unfolded, however, was that there appeared to be five or six different sets of knowledge and skills (or toolkits) that students needed to be able to successfully achieve the goals of the activity. As the project progressed, the teacher and I began to identify these and map some of the kinds of learning that occurred or should have occurred in relation to each task. Data drawn from the student survey responses and focus groups also supported the identification of key themes and clusters of skills or toolkits.

When this data was analyzed through the Leximancer qualitative data analysis program, a range of key themes and clusters were further identified in the data.

These are included in Figure 1. Titles and arrows have been added to indicate the relevance of some of the Leximancer clusters to those initially identified by the teacher and myself. This clustering exercise supports the identification of student learning about drama, social aspects, multi-media literacies and learning about the idea of the work (immortality).

Figure 1: Leximancer clusters drawn from *The Immortals* survey and focus group

Learning experiences and documentation from the project were then mapped in more detail, and it seemed apparent that the digital or multi-media literacies could be further broken down into a multi-media toolkit (creating video and audio clips), and an e-learning and communications toolkit (communicating through the various online spaces). The area of reflective practice, and scaffolding learning experiences with students to periodically review what had been learnt and where we would go next also required a specific set of skills. A framework (Figure 2) has since been

devised with details of the different skill and knowledge sets that the cyberdrama project required.

What this analysis suggests is that the use of ICTs in the classroom involves various repertoires of practice and cultural tools, some of these practices centre around using different technologies and tools. However, related to these are sets of social practices and toolkits that are centered on subject relations and conceptual development as well (i.e. about specific dramatic forms or the idea of the work).

Learning Focus	Drama (tool and sign use)	The dramatic idea or concepts	Social & relational practices	Multi-media toolkit	e-learning toolkit	Reflective practice
Module 1 – Enrolling in the drama/who are you?	Roleplay & improvisation Role development Monologue Skills of performance – acting for film	Immortality – what does it mean? Different accounts in literature Individual and group responses to the pre-text	Skills audit – group formation ensuring skills in different areas Collaboration vs group Establishing group norms	Taking photos, resizing, manipulating Internet publication issues File compression and conversion uploading (jpg format for photos, mpeg4, QuickTime or wmv etc for video) Posting material to the Internet (e.g. <i>YouTube, Ning, Blackboard</i>)	Accessing Blackboard on the Learning Place ‘In-role’ and ‘out-of-role’ spaces Protocols for communication Copyright in schools/child protection Using the blog & the wiki, what’s the difference	Modeling journal writing Contribution to Communications spaces on <i>Blackboard</i>
Module 2 – The news is out (building the narrative)	Tension Language of media presenters Narrative structure Improvisation skills – building and extending on offers	Scientific accounts – current research Incorporating responses to the question through the characters	Negotiating roles – building roles for others Reviewing participation to date	Camera shots for interviews and news stories (establishing shots, two-shot, voice over)	Netiquette importance– posting to discussion forums Using chat room – changing color & name, making and extending on offers	Guided reflection activities – what is a good reflection? Difference between description and analysis
Module 3 – There’s something strange about... (metaphor & analogy)	Symbol & metaphor Poetic devices and conventions	Comparing different beliefs about what is being offered to characters, impact on lives	Evaluating input – consensus decision making (is it possible and how?)	Scanning and manipulating images Creating soundtracks (using creative commons music)	Reviewing online material – what learnt about each character and how. Commenting on other people’s pages	Warm & cool feedback online to other groups after posting How do we deal with feedback?
Module 4 – presentation	Skills of live performance Creating back-stories Improvisation Audience engagement and interaction	Contemporary views of immortality – personal, scientific, dramatically conveyed	Negotiating roles, how to build ‘group think’ and synergy in ensemble work	Files & format conversions, technology for performance	Reflecting and evaluating online	What did you learn through the process? . about drama . about life . about using technology and online spaces?

Figure 2 Different learning components for The Immortals project

An issue that emerges from this analysis is the complex nature of tools, signs and concepts involved in activity of this nature. Learning in this context extends beyond the drama discipline focus of the formal curriculum. To manage this learning environment and the successful achievement of collective activity requires planning for engagement with all these different toolkits and directing and guiding participant learning where needed. Some scaffolding tools helped achieve these ends for *The Immortals* project, including setting task parameters each week and sharing these on the *Blackboard* site. However, it was evident at the end of the project that some areas, such as reflective practice, needed to be the focus of more directed attention and activity.

What this case also signaled was that for many students, drama activity signals engagement with particular tools, with preferences shown for live, and corporeal or face-to-face human interaction. The system and processes for creating cyberdrama need to involve social and cultural practices and tools and not just a singular focus on technology.

Variation in toolkits and preferences for creative practice

Overall most students indicated they had enjoyed the unit and appreciated using the digital tools and spaces. From the 13 students that completed the survey and Likert scale ratings, an average of 4 or more out of 5 was the result for questions related to student satisfaction with the use of digital tools and online spaces. However, when it came to a question about their overall satisfaction with the unit the average was lower at 3.5. Responses to open-ended questions about how the unit of work compared to other drama ones indicated that three students found the use of technologies interesting, but in the end they would have preferred to do a straight *live* drama unit and performance. Two other students who did not complete the survey indicated similar opinions in the focus group debrief, so in total approximately 40% of the group indicated live performance preferences.

Julie: To be honest I didn't really enjoy cyberdrama ... I didn't like the whole making of it, I prefer to just perform.

Lexi: I think because we were not expecting that kind of thing – I think I was expecting performance and more traditional acting and performance. (*The Immortals* debrief transcript, lines 767-782)

For a number of these students, their creative preferences and visions of the future self, related to them as performing artists working in an embodied, live performance realm. They loved the experience of performing drama for a live audience. Many of them had considerable prior experience in this creative realm and that remained their creative preference.

Several students spoke quite passionately about their enjoyment of the live performance experience, how it made them feel alive – and for those students in particular, the online experience did not really match it. Therefore, it seemed that the use of the cyberdrama processes could be used to extend young people's experiences in drama, but some young people do not want these mediated experiences to replace the live ones. For some students digital tools were just that, additional tools to use but not their preferred creative tools. For others, digital tools and networked performance opportunities were clearly vehicles for them extending their creative experience and finding possible audiences.

Conclusions

Through this research project digital technologies and online spaces were used to create dramatic roles and content, promote communications in-role, and share resources and the outcomes with others. Student preferences in regard to digital tool use were for video recording technologies and online spaces, which allowed for participant interactions. Students were attracted to the idea of using sites such as *YouTube* to share their work with a wider audience beyond their class group. Students were not as enthusiastic about the use of educational spaces and did not

regularly use those spaces outside of school time. Their preference was for those spaces where they could be creative and which allowed them to show identity markers, control design elements and engage in creative practice.

It was clear that students had variable skills in using different mediating technologies, online interfaces, and online communications tools. To help scaffold student learning in this realm, teachers may find it productive to conduct an audit of student ICT skills at the beginning of a unit. Through identifying students' strengths and weaknesses teachers can structure the learning for students and ensure that technologies, cultural tools and social practices can be used in meaningful ways. A significant outcome was that some students did not necessarily want to engage with ICTs as part of drama learning at school because of two main reasons. Some students expressed dissatisfaction with the restricted nature of digital tools and online spaces that they could use at school, others wanted to experience as much live drama performance work as they could at school.

What this study suggests is that many students appreciate the experience of collectively creating live drama work. Some students do not wish to sacrifice these experiences at school if they are to be replaced by the use of ICTs that they consider inferior. It is unlikely that drama students and teachers will be willing to trade the dynamic live processes of the drama classroom with what they perceive to be sedentary mediated experiences of a restricted nature. ICTs can be used to facilitate learning; however, their use must be seen in the context of quality, engaging activity and social practices, not as a positive end just for the sake of it.

The rise of social media and creative content-sharing opportunities through the Internet, signals a shift from the Internet as an information retrieval tool to a space for identity work and communicative exchanges. There are opportunities for drama educators to explore creative processes that are familiar to them within these virtual spaces. There is also great potential for combining the use of ICT-based mediational tools with other somatic tools and live drama processes. Drama conventions and

processes need to be revisited anew and considered in light of digital affordances, but many useful frameworks are already there.

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