

Assessment for learning within digital spaces: The contribution of eLearning and student voice to learning and assessment

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Abstract

The New Zealand Curriculum (NZC) (Ministry of Education, 2007) highlights the potential of eLearning pedagogy to enhance student learning. The NZC also frames a significant challenge to teachers – to “explore not only how ICT can supplement traditional ways of teaching but also how it can open up new and different ways of learning” (p. 36). This article examines how the teacher and students of one digital year 7–8 composite classroom in a New Zealand intermediate school combined student voice and eLearning pedagogies to enhance student learning. In the process assessment for learning practice was adapted to take advantage of the digital-mediated learning context. The paper describes how foundational assessment principles were enacted and hybrid practices emerged to make learning visible in ways that engaged students in collaborative learning for authentic purposes and real audiences.

Introduction

The New Zealand Curriculum (NZC) (Ministry of Education, 2007) highlights the potential of eLearning pedagogy to enhance student learning. The NZC also frames a significant challenge to teachers – to “explore not only how ICT can supplement traditional ways of teaching but also how it can open up new and different ways of learning” (p. 36). This article examines how the teacher and students of one digital year

7–8 composite classroom in a New Zealand intermediate school combined student voice and eLearning pedagogies to enhance student learning. Pedagogies that utilised digital technologies and student participation in digital spaces were explored for their potential to position students more powerfully in co-constructive teacher-student relationships as contributors in online communities beyond the classroom. In this process, the assessment for learning practices used to support student learning were adapted to take advantage of the digital-mediated learning context.

Background

Three aspects comprise the background for this paper: the role of eLearning in enhancing student learning, the nature of assessment for learning, and the nature of student voice ideals. These three areas are combined to influence learning and teaching practice within one digital classroom.

eLearning in the classroom

Hsi, Pinkard & Woolsey (2005) note that young people today have set the agenda for the use of many current technologies in society. For example, they defined instant messaging conventions, invigorated the music download industry and took full advantage of blogs and wikis to communicate their views to the world. Research into young people's digitally-mediated activities paints a generative picture of them as actively involved in "voice exchange and storage, image capture, asynchronous text exchange, chat, storytelling or self publishing" (Hsi et al., 2005, p. 4). Through digital technologies young people engage in and connect with peer and online communities that reach beyond school. However, it seems that technology integration into classroom learning activities is often superficial (Lindstrom, 2012). Honan (2012) notes, from literacy research in Australian schools, that many teachers know very little about how their students utilise digital technologies in their lives outside school.

When young people's preferred eLearning practices are adapted for classroom use, new hybrid classroom teaching practices can emerge that potentially enhance their learning.

To elaborate, teachers taking account of how students use technology in their lives beyond school (the first space) and integrating these practices into learning at school (the second space) can result in hybrid or third space practices that are co-constructed by teachers and students (Gutierrez, Baquendano-Lopez, & Tejada, 1999; Lindstrom, 2012). Third space practices incorporate student values and life experiences into classroom practices; they also open up new ways to meet classroom learning and curriculum goals.

Wright's (2010) review of the eLearning literature found that the integration of ICT tools into classroom learning has the potential to change the dynamics of the learning context in important ways. These tools can extend the physical classroom domain to include virtual spaces and facilitate student access to resources and real world audiences difficult to reach otherwise. Wright argued that ICT-mediated collaboration can promote higher level thinking, and make learning more explicit by increasing student dialogue. The potential of digital technologies to transform the way students capture and make their learning visible has been identified by others (Hipkins, Cowie, Boyd, Keown, & McGee, 2011). *The Curriculum Implementation Exploratory Studies* (Hipkins et al., 2011) found that early adopter schools working to enact the vision of the NZC involved students in contributing, sharing and reflecting on their learning through the use of digital technologies such as cameras and video and online forums including wikis and blogs. The persistent electronic records that were created afforded students tangible evidence of their learning that could be reviewed and critiqued with a view to improvement.

Assessment for learning in the digital domain

Foundational assessment for learning. strategies include teachers clarifying and sharing learning intentions and criteria for success; teachers engineering classroom discussions and tasks that elicit evidence of learning; and teachers providing feedback that moves learners forward (Wiliam, 2007). It is also recommended that teachers activate students as instructional resources for one another and support students to be the owners of their own learning (Wiliam, 2007, p. 2). Each of these strategies positions student initiative

and action at the heart of the assessment process with students supported to become informed participants rather than passive recipients of feedback and grades from teachers (Absolum, Flockton, Hattie, Hipkins, & Reid, 2009). A key assessment challenge however is to make student thinking and learning visible and to shift increased responsibility for learning to students. Within digital learning contexts an added challenge is to understand the relationship between digital-mediated learning and assessment (McFarlane, 2003). In this paper I explore the use of a range of ICT tools for active student involvement in assessment.

Unpacking student voice

Student voice is a stance that advocates for educators to listen to and to take account of student perspectives and experiences in the design of learning and teaching at school (Cook-Sather, 2002; Rudduck, Chaplain, & Wallace, 1996). Until recently students were excluded from such deliberations on the assumption that they lacked the maturity to know what was in their best interests (Rudduck & Flutter, 2000). Contemporary views of childhood (James & Prout, 1990) and recent human rights legislation (United Nations Convention on the Rights of the Child, 1989) challenge this assumption. Young people are now afforded the right to participate in decision-making about their interests in all institutions relevant to their lives, including school (Lundy, 2007). Despite this, students still tend to be involved only superficially in educational decision-making (Brooker & MacDonald, 1999). How to involve students powerfully in advocating for their own interests through a synergy between ICT, assessment for learning and student voice initiatives is a focus for this paper.

Combining aspects to open up new possibilities

eLearning, assessment for learning, and student voice philosophies share a common vision. In each case students are positioned as active learners able to co-construct the direction and substance of their learning and to monitor and review their learning progress. The integration of digital tools into classroom practice can change the dynamics of the learning environment to enhance teaching, learning and assessment. A

focus on student voice can change the dynamics of teacher-student relationships to make them more equitable thereby increasing the likelihood that learning and assessment are co-constructive. The introduction of assessment for learning can support the use of ICTs and student voice as key aspects of teacher and student decision-making around curriculum matters. This paper provides some examples of how these aspects can come together to benefit students and their learning through new hybrid classroom practices.

The study

This paper draws on examples of classroom practice generated within Lincoln's classroom. Lincoln (a pseudonym) was one of three class teachers participating in a larger collaborative action research project carried out within a decile 8 intermediate school across a school year. The larger project explored how teachers might learn from their students about what made teaching practice effective, and use the insights gained to renegotiate their teaching practice and classroom programme with their students. Assessment for learning was a feature of teacher practice school-wide.

Data were collected in three phases: 1) exploring perceptions, 2) wider student voice, and 3) class action research projects. For the purposes of this paper data generated within phase one is most relevant. Hence, I describe data generation and analysis processes of phase one in some depth and only briefly outline the focus for phases two and three.

In phase one (February–May) the three participating teachers and a student research group (SRG) of 12 students (four from each class) completed photo assignments and photo elicitation interviews. The teachers took photos that represented their perceptions of effective teaching for the young adolescent age group and their perceptions of student voice. The students were given a disposable camera and each took photos that represented their perceptions of effective teaching, themselves as learners, and how they learned beyond school. They also produced drawings that depicted the conditions that supported their engagement in learning at school.

Teacher and student participants individually shared their photos with the researcher in photo-elicitation interviews (Clark, 1999; Taylor, 2002). The images and initial meaning given to them by the participants acted as a springboard for further participant–researcher discussion of the topics raised. The participating teachers analysed transcripts of the student photo elicitation interviews using a constant comparative approach (Silverman, 2005). The themes identified in the data provided the ‘initial student voice’ for the study. The teachers referred to this to inform their planning throughout the research.

In phase two (June–July) the teachers member-checked (Mitchell, 1983) these initial student voice findings through class discussions with their students and explored their students’ perspectives in more depth. In phase three (August–October) each teacher negotiated a class action research project with their students. Together they worked to align one aspect of their class programme with their students’ learning preferences and understandings of effective teaching.

The initial SRG group participated throughout the research. They met twice each term with the researcher to reflect on aspects of the action research as it unfolded in their classrooms. The four SRG students from Lincoln’s class are referred to throughout this paper by the pseudonyms they chose. These were Captain Underpants, Hityu, Ashley Green and Lulabelle. This paper incorporates data from Lincoln’s initial photo elicitation interview as well as relevant data from SRG photo elicitation interviews and subsequent SRG discussion group transcripts.

Lincoln’s digital class

Lincoln was in his eighth year of teaching. He was a lead teacher responsible for eLearning across the school and taught within a ‘digital’ classroom. This meant Lincoln and his students were positioned as pioneers within the school, paving the way to explore the potential of digital technologies as tools to facilitate and enhance student learning and engagement. Lincoln’s class had access to eight netbooks, ten iPod touches

and a Nintendo Wii in addition to the interactive whiteboard (IWB) and desktop PC common to all classes across the school. Lincoln preferred mobile technologies based on the assumption they could promote student collaboration. A class blog and other online forums were utilised as sites for collective and collaborative student learning and destinations for digital products of student learning.

Lincoln's class of 29 comprised 16 year 7 students and 13 year 8 students. Care had been taken to select a heterogeneous mix of students within the class rather than 'hand-picking' students with perceived strengths with digital technologies.

eLearning and assessment for learning in Lincoln's class

Lincoln's philosophy of effective teaching combined eLearning and student voice beliefs. Lincoln's teaching philosophy aligned with the tenets of assessment for learning through his focus on: 1) creating opportunities for students to work collaboratively facilitated by digital technologies, 2) involving students in making decisions about their learning, assessment and the class programme, and 3) positioning students as teachers acting as learning resources for each other. First and foremost Lincoln maximised opportunities for students to interact and collaborate as learning partners and resources for each other's learning in learning experiences rich, real and relevant to them.

Effective teaching ... I guess it's going back to some basic things of just ensuring things are rich and real and relevant. That the students are connecting with and that they also feel that they are having some role in the decision making process. And you know through discussions with students and things like inquiry, allowing them to help take a path in the painting of the assessment process and looking at the different criteria. Things that give them a clearer idea of what the expectations are and about where they're going. (Lincoln)

Lincoln viewed the teaching-learning relationship between himself and the students as co-constructive. His goal was to work together with his students to integrate their

personal interests with the commitments of the school curriculum. He espoused active student participation in assessment processes such as setting learning directions, knowing task expectations and co-constructing success criteria.

Findings

Three themes emerged from the data collected. These will be explored and their contribution to assessment for learning discussed. They are: 1) student collaboration with digital tools within digital spaces for real and valued audiences, 2) students as teachers fostering each other's learning, and 3) the effects of feedback from a real and valued audience on students' motivation to improve and refine their learning.

Theme 1: Student collaboration: Digital tools within digital spaces

The emphasis on student collaboration created a network of connections between students around their mutual goals and helped to build a learning community based on the students' values as well as Lincoln's.

Students collaborating and working together ... giving them an opportunity I guess to co-construct things together. It's not all just always coming from the top. That they feel that their ideas and their input is being valued and if there's an opportunity that maybe rather than you making the steps A to Z and then working through them, if there's an opportunity whereby some of the students could take sort of, by little paths through, you know sharing where their interests are and the things that they want to work with.
(Lincoln)

Lincoln explicitly valued the productive dialogue generated as students shared the use of digital tools to maximise collaboration.

Having the students using things like itouches and net books it's really neat to have them sit around rather than having a long row of computers against

the wall which doesn't lead to any discussion or collaboration. Having four kids sitting around the table with two net books and sitting face to face ... it allows for a lot more direct contact and discussion and hopefully rich discussion related to the activity as opposed to one student, one machine and not promoting that dialogue. (Lincoln)

Digital tool and internet use within the class programme was designed to build explicitly on students' experience with ICTs in their lives beyond school.

Given the experience that a lot of the students have had using cell phones and computers at home and gaming and different computers and things, when they're able to use that different medium to share their ideas and their thinking often they can come up with some really exciting things. So I think having an understanding of that can lead to utilising technology well and allowing the students to display some of that potential. (Lincoln)

Lincoln was attuned to where his students were at as learners and how their experience with digital technologies outside school might move their learning forward in the classroom. In this way he set up the expectation of third space practice mediated by ICTs and co-constructed with the students.

Lincoln used Google Docs as a site for student collaboration (Google Docs is an online Web 2.0 tool that enables individuals in different locations to work collaboratively on a document). An expectation for students to work collaboratively and the inherent collaborative affordances of this online tool combined to activate the students as resources for each other's learning. Utilisation of tools such as Google Docs in the classroom extended the opportunity for students to collaborate beyond the classroom space and school day. For example, Lincoln's students collaborated on a 'pick-a-path story' via Google Docs both in and out of school. They began the planning for this required literacy task at school using the class netbooks and continued to develop the story and path options in the virtual context from their homes. Lincoln shared one example of a pick-a-path story that two boys were working together on.

They've actually gone in and continued to work at home and develop the story and some different pathways. Last time I saw this they were up to about chapter 25. So they've been motivated and engaged with it and quite keen to go home and continue to develop that (Lincoln).

The topic of the pick-a-path story was selected by students and was personally engaging to them. The requirement to use Google Docs meant that student engagement could be sustained beyond the final bell at the end of the school day.

Lincoln contrasted the potential of ICT-based student collaboration with the perceived limitations of more traditional individual approaches to learning. He challenged taken-for-granted practices such as students recording their ideas in their exercise book, instead promoting a collective pooling of student ideas in virtual spaces.

We drew up on the board the other day that if each of the students finds out three good ideas and puts it down in a book then they've got three good ideas in their book. If we make up a class 'wonder wall' (www.wallwisher.com) and they each have three different good ideas on there then we're going to have 90 different notes on that web page (Lincoln).

Lincoln acknowledged that the quantity of pooled ideas was not the main point, positioning students as resources for each other's learning was.

It's just finding out ways for students to share their input and have it valued ... and finding ways for them to share that back with the whole. (Lincoln)

The SRG commentary indicated that these students recognised the value of sharing ideas that then became a resource for others. Captain Underpants explained the value of a more public sharing of ideas.

Usually like before this term what we did was just put [learning] in our books and no one else saw it but now we're like putting it into a movie and a DVD so lots of people can see it. (Captain Underpants)

Theme 2: Student collaboration: Real purpose, real audiences

Lincoln's students were encouraged to make their learning visible and to communicate their learning to valued audiences as a core part of the classroom programme. Constructing and sharing electronic records of their learning with others within virtual spaces such as YouTube, class blogs and personal blogs opened up potential access by students to real audiences. The interactive nature of these online spaces meant that students might receive feedback on their contributions from a wider range of others.

Whether it's made in animation or a photo story or a short film. They can put it up on a whiteboard or they can share it through their blog with family and friends and there's a real audience there. Where having that in a book just doesn't necessarily have the same opportunity to share it with yeah a wider learning community I guess. (Lincoln)

Affirmative feedback from these real and potential audiences beyond the school motivated students to improve the digital products that captured aspects of their learning. Lincoln described how a group of students created a video related to World Maths Day on their iPod touches and then uploaded the completed video clip to YouTube and received an email from the Maths Day coordinator.

About four or five hours later they'd got an email sent from the National Coordinator of World Maths Day in New Zealand thanking them for the video. They were kind of like "Oh wow, we didn't actually think that anybody was going to probably look at this other than people within school". (Lincoln)

Receiving this feedback on the value of their contribution threw the students into an assessment conversation about how they could have improved their video for this unexpected audience.

They started thinking “Oh maybe we should have put a bit more effort into it, we maybe could have changed that or we would have fixed this up or made the audio a little bit clearer”. (Lincoln)

The evidence of a real and valued audience for their contribution seemed to activate the students’ tacit understandings of the criteria involved in a quality video product. When this knowledge of quality became an explicit focus the students could work together effectively to improve their learning for a real purpose.

Hityu described a similar motivating effect of a ‘real audience’ through an experience of producing a daily television programme for the whole school.

It kind of gets you more motivated to, like, do your best and everything because when you know that 500 people are going to be watching it, the whole school is, and then you kind of want it, everything to be right. (Hityu)

Contributing to a real audience motivated the students to review, critique and improve their television performances. This review was made possible by recording the students’ daily broadcasts. Students were then able to watch these recordings to critique and provide feedback to improve each other’s work.

Lulabelle’s description of the critique process for student television productions identified many of the qualities of effective assessment for learning feedback.

It goes onto the, on the network kind of thing ... and so all the classes can have a look at it ... That is when we are all together and when the boys’ one was done, we got to do a PMI ... The bad bits and the good bits and ...

Getting everyone to write what, like what we thought about it and not just [the teacher] telling us what was bad and good. (Lulabelle)

Lulabelle's perspective emphasised that student access to records of their performance dissolves their reliance on their teacher for feedback and evaluation. This practice of collective viewing involved the students in the feedback process as owners of their own learning and resources for each other's learning.

Site visit maps (www.clustrmaps.com) embedded on their blogs appeared to motivate the students' persistent participation in a similar way to actual audience feedback. (Site maps are mini world maps. Dots appear on the map whenever someone views the blog telling the blogger how many people have visited their blog and their geographic location). The appearance of the dots indicated the presence of a real audience viewing students' work and contributions online. Lincoln described the positive effect site map 'dots' had on one student's persistence with posting book reviews on his personal blog over the school holidays.

I can say 100% now there's no way that if he'd done book reviews in his exercise book that he would have done those over the holidays. But being that it was on a blog and that he's seeing little dots turn up on his map from where around the world people are looking at their blogs ... he knows it's there. You know he feels that he's contributing something to somebody else. He's not just doing it for him or his teacher. He feels that he's sharing that with a wider audience and I think that's the key... He's got a bit of a voice there. (Lincoln)

Theme 3: Students as teachers activate each other's learning

Lincoln actively positioned students as teachers to activate each other's learning. He explains:

There's a lot of students here that are quite clever with using technology so it's tapping into them and having the philosophy of students as teachers as well. (Lincoln)

This positioning was a way to shift responsibility to students for their learning. The students identified having the opportunity to teach each other as an example of effective teaching. Hityu included a photo of a student helping two other students with a technical aspect of the school-wide TV programme production as an example of effective teaching.

They didn't know what to do for the TV production so she was pointing out to them like what controls to use in the little control room and because they didn't know anything about it ... so she was just teaching them and telling them and showing them how to do it. (Hityu)

The students taught each other 'just-in-time' technical skills to support each other's participation with digital devices, web 2.0 tools and technical projects.



Figure 1. Students as teachers sharing expertise

Figure 1 depicts one student teaching another the hand gestures needed to effectively operate an iPod touch. This peer teaching occurred as the two engaged in online work related to World Maths Day; the gestures were needed to navigate the task.

Implications for assessment for learning

Knowing where the learner is can include, in an eLearning context, an awareness of how young adolescent students use digital technologies in their lives beyond school and how this experience might be integrated into formal classroom learning. Persistent electronic records of student learning can act as resources for use by students and teachers to communicate, share, affirm, critique and improve learning. Perhaps most importantly the ability to provide feedback that moves the learner on is afforded in eLearning contexts by the digital tools and digital spaces themselves. When electronic records of student learning are posted online they can provoke interactive audience engagement to create a dynamic learning environment that reaches beyond the classroom. Affirmative feedback from valued others appears to motivate students to critique and improve their learning in light of the knowledge that their learning is seen as a real contribution in the wider world.

eLearning practices such as those described in this paper have demonstrated their potential to offer new hybrid ways for accomplishing assessment for learning by:

- Making student learning and thinking visible;
- Providing a persistent multimodal record of student learning;
- Promoting commitment to improvement of learning;
- Shifting increasing ownership of learning to students;
- Involving valued others as an audience for and participants in students' learning;
- and
- Activating students as resources for each other's learning.

The use of digital devices alone is not enough to produce the benefits described in this paper. Learning was enhanced when records of learning were used by students, and by the teacher, to review, critique and improve learning. This happened because the

practices in Lincoln's classroom activated students as resources for each other's learning through the collaborative use of digital technologies. Such collaborations position students as co-learners within a developing learning community that is characterised by discussion, deliberation, negotiation, critique and review. Lincoln's beliefs about and practical commitment to acknowledging and recognising student voice was crucial to the way assessment for learning played out in his classroom. In the third space of Lincoln's eLearning classroom, student voice and assessment for learning combined to position students powerfully alongside their teacher as they collaborated to support learning that was rich, real and relevant to them. Their co-constructive relationship opened up new possibilities for negotiating how digital technologies might enhance student learning in the classroom and in the online contexts in which they participated.

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