TEACHING & LEARNING RESEARCH INITIATIVE

NĀU I WHATU TE KĀKAHU, HE TĀNIKO TAKU

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Together is better? Primary students' and teachers' experiences of collaborative learning online

This project undertook to research the use of the Learning Activity Management System (LAMS) online learning environment to teach a collaborative unit involving three classes in two primary schools.

There has been much research on collaborative learning at various levels of the school sector (e.g., Brown & Thomson, 2000; Holloway, 2003; Holmes, 2003; Holzer, 2004; Lourdusamy, Myint, & Sipusic, 2003; Peel & Shortland, 2004; Whatley & Bell, 2003). However, the use of online environments for collaborative work is a new and largely under-researched area for primary school teachers, as most studies in this area have involved the secondary or tertiary sector (Chih-Hsiung & Correy, 2003; Hakkinen, 2003; Hron & Friedrich, 2003; Neo, 2003). This project helps to address this gap in the research literature.

Research support was provided to encourage the participating teachers to develop as critical professionals reflecting on their practice, using action research. In particular, the project had teachers use a "hybrid" model (mixture of online and face-to-face environments) to deliver part of their classroom teaching and learning programme and reflect on this process (Collison, Erlbaum, Haavind, & Tinkler, 2000; Draves, 2002; Ko & Rossen, 2001).

Aims of the project

The main aim of the project was to gain an understanding of the learning and teaching process within the LAMS interactive and collaborative learning online environment, using action research methods for participant researchers to inform their own practice (Borthwick, Jones, & Wakai, 2003; Roberts, 2004). As both schools that took part in the project are at the lower end of the socioeconomic scale (decile 3), another aim was to help bridge the digital divide through access to technology.

Objectives

Specifically, the objectives of this project were to:

- identify how involvement in a collaborative online environment affects students' and teachers' experiences of learning
- give teachers the opportunity to expand/add to the variety of teaching and learning strategies they use in their classroom programme
- produce recommendations for teachers on using the LAMS online environment.

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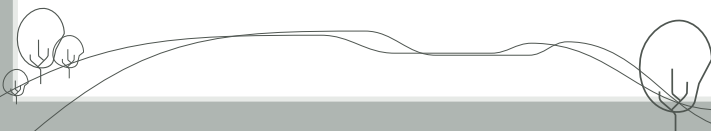
Research questions

The project's research questions were:

- How effective is LAMS in providing an online environment for collaborative learning experiences?
- What is the nature of students' experience of learning in a collaborative learning online environment?
- What are the critical success factors for students and teachers in developing and using a collaborative learning online unit of work?
- How does involvement in a collaborative learning online environment affect teaching practice and strategies?
- What was the contribution of the technology to the teaching and learning experience?
- What did the teachers and students think of LAMS as an online collaborative learning tool?

The teacher researchers also had their own research questions for the action research studies they carried out.

Research design

The overall research project could broadly be categorised as three interconnected case studies involving three Years 6–7 classes in two schools. It centred on the development, implementation, and evaluation of a cross-school, collaborative unit of work in an online environment over a 10-week period. The teachers of three Years 6–7 classes worked together with an ICT facilitator from South Learning Centre to develop the collaborative unit using LAMS.

All the research partners met on several occasions over July–August 2004 to develop key research questions, to design the research action plans, and to ensure the participant researchers were aware of the research process, the nature of action research, and the workload involved.

The teachers had four meetings in Term 4, 2004, in which they were trained in the LAMS tool and wrote their research questions, with additional meetings held to scope possible themes and time frames. During Term 1, 2005, they decided on the topic—vandalism—and planned the unit, which was implemented in Term 2.

The three teachers collaboratively planned the unit of work and wrote and trialled the sequences for students to complete online. Each sequence was supported by class lessons and additional activities to provide knowledge and understanding. As the unit progressed, the teachers met at various intervals to write the next sequences and evaluate progress.

Data collection methods were developed that would fit in with the types of activities the teachers wished to include in the vandalism unit while allowing them to collect data to assist in answering their own research questions. These methods included unit/lesson plans, feedback from project meetings, observations, anecdotal notes from reflective journals kept by the teachers and students, interviews with teachers and students, and samples of student contributions on LAMS sequences.

Findings

In summary, the main findings of the research project are:

- LAMS enables teachers to develop learning sequences using a variety of activity tools that all have the potential to contribute towards a collaborative learning environment. However, the quality of the learning environment was clearly affected by the teacher's development of the content and purpose of the activities chosen within a sequence.
- There are most definitely groups for whom this environment is more effective than others in relation to higher order thinking skills as some students do not have the academic readiness to think beyond the lower levels. Also, reading and literacy skills determine how effective the LAMS environment is for some students.
- The critical success factors for students and teachers in developing and using a collaborative learning online unit of work are time, professional development, confidence and capability, access to computers, a support network, and effective teaching practices.
- In order to be able to provide a programme of work that fosters collaboration and caters for a wide variety of individual and collective needs of the students, teachers need to be flexible in their approach and utilise a wide range of strategies.
- Despite there being a number of issues to contend with, the contribution of the technology to the teaching and learning experience was seen as positive overall.
- The use of the LAMS environment was a source of motivation for both the teachers and students in fostering collaboration despite technical issues having to be overcome.

Conclusions

With the rapid change and development of conditions and learning needs of students, teachers are often being asked to develop skills in facilitating learning which bear no relationship to how they themselves were taught. This means they need ongoing professional development and support to replace old strategies with ones that reflect the environment young people live in today.

The literature on professional support recognises the importance of teachers learning from each other (Howard, 1999). The development of sharing in a school community and the teachers' sense of belonging are growing topics in the literature on teacher professional development and support.

Before teaching students in an online environment, teachers need experience in being online learners themselves, so that they are aware of what it is like for the learner and what support the students potentially need (Bender, 2003; Ko & Rossen, 2001). The amount of time spent showing and teaching the students how to use the LAMS environment needs to be weighed up against giving the

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students enough information for them to explore and use it independently.

The role of the teacher as moderator and facilitator is also important. One of the criticisms the participating teachers had was the quality of the students' chat/discussions at times. This is also related to the choice of LAMS activity. Whether the chat tool was the most appropriate for the discussions is another dimension that needs to be investigated. The word "chat" itself has a more informal connotation and maybe this signalled to the students that it was more a social space than a formal space.

Just as in a face-to-face class, a variety of learning opportunities and activities is desirable when creating an online unit of work (Ko & Rossen, 2001). One successful aspect of this project was the creation of a "hybrid" class; that is, a mixture of face-to-face and online teaching and learning activities. The online environment allows those students who are reluctant to take part in a class discussion to have a say in a safe environment. They can take time to think over and formulate their answers before posting their response onto the discussion area, as opposed to having to respond immediately in a face-to-face discussion (Ko & Rossen, 2001).

Ownership of the project by the teachers was nurtured by the project co-ordinator although there was a tension between the use of the LAMS environment versus the planning, writing, implementing, and evaluating of the programme of work. The use of LAMS was not fully reviewed as there was no direct feedback on a number of the activity tools. Chat was the only tool used across schools. LAMS needs to be evaluated as a tool, rather than just as the environment for delivering the programme of work.

It was essential to have social interaction between students using the chat tool across schools before the actual lessons on vandalism began. This allowed the students to have a sense of knowing the others in their group. Ko and Rossen (2001) state that the use of icebreaker activities is essential and fulfils two purposes—introducing the students to each other and giving them an opportunity to test out the system. Some of the students' concerns about what their peers wrote, and the teachers' concerns about the depth of their students' answers, might have been addressed had a trial LAMS unit taken place before the vandalism unit was begun.

While the ability level of the students was taken into account, the amount of distraction for a less capable student who had a teacher assistant to help with reading and typing meant that there was less focus on the answer given. The mechanics of using the LAMS environment (e.g., spelling a name correctly to log in) were the focus rather than the content of the session.

The teacher's online participation can take the form of encouraging comments, critical feedback, or bringing the participants back to the topic (Bender, 2003). The teachers did not participate in the online discussions and therefore were not able to redirect the discussion if necessary or question a student further to elicit deeper thinking. Also, there was no modelling of what was expected of the students in terms of posting answers to questions or participating in discussions.

One of the teacher's advice to others to "have a sense of humour because things will go wrong and you will make mistakes along the way" reflects the attitude the teachers had throughout this project. This was essential in light of their experiences with the newness of LAMS and the diverse nature and needs of their students.

The teachers and students commented that one of the highlights was when the two classes got together at the end of the unit to have a "celebration of learning" and present their findings face to face. This allowed the students to meet other students that they had got to know online. This avenue was open to them as both classes are situated in Christchurch, but the project authors recognise this situation is unusual for online learning and may not always be feasible.

Recommendations

If LAMS were to be used, we recommend that:

- In planning for a research project of this nature, a budget is provided for a researcher or another teacher to be in the classroom to record observations/interactions.

- Robust and rigorous trials are carried out before launching into the unit to ensure the program can be utilised as intended in the classroom environment and on the available equipment.

- The use of scaffolding is recognised as an important aspect of working online. Modelling by the teacher allows the students to see the format and signals to them what the expectations are.

- Teachers take part in the discussion in order to ensure that the discussion stays on topic or continues forward.

- Time is allowed for social interaction for students to have a sense of knowing each other and feel they are able to share their responses openly.

- Students are given the opportunity to meet face to face to do their presentations at the end of the unit so it has an authentic context and purpose.

- Before starting such collaboration, it is essential that teachers have time to meet face to face or by telephone to build relationships and ensure a quality outcome.

- The participating students involved need to know the intended outcomes of the activity and/or unit.

- Regular access to Internet-capable computers or laptops is essential to ensure that the two classes have the opportunity to communicate online on a regular basis and for students to complete the online activity sequences.

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- A buddy system for the ESOL or less able student is one way to ensure that all students gain success and feel comfortable in the LAMS environment (Collison et al., 2000; Draves, 2002; Ko & Rossen, 2001).

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