

What's in a MOO for primary students' online learning?

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In 1998 Lyn Hay (lecturer, Charles Sturt University and a program leader for ReCITE <http://www.csu.edu.au/research/recite/>) established an online learning investigative project involving school students participating in literature circles in an educational MOO. A parallel program with adult learners (Hay and Hanson, 1999) provided participants with the opportunity to explore similar learning experiences. The enthusiasm, commitment and learning that students demonstrated belied my own belief that young students would not respond well to such a text-based environment. Curiosity as to the 'Why?' of the success of the program led to me to doctoral research on the topic 'Educational MOOs as supportive online learning environments for literature discussions: an investigation of upper primary students conducting MOO-based literature circles.

Literature circles are literary discussions that focus on participants making sense and developing understanding of selected texts through social interaction. Daniels (1994) considers the literature circle model as a means to encourage independent reading and cooperative learning in a stimulating, social activity. Daniels presents a range of roles that participants adopt to support their literary discussions. These roles encourage readers to interpret texts in different ways and, in combination, lead to a multiple interpretation of a text through the application of a range of cognitive learning styles.

MOOs are multi-object orientated environments that support synchronous communication between participants. They provide purpose-built virtual 'spaces', consisting of rooms and objects that participants can inhabit and interact with. Communication is achieved through the use of commands that present dialogue and emotive responses onto the screens of all people sharing a common 'space' and to any identified person logged on at the same time. MOOs can be accessed with client software and a telnet connection or via the World Wide Web. Educational MOOs include a range of objects that reflect traditional classroom teaching tools, including slide projectors, whiteboards etc. Eric Digests (1997) and Haynes and Holmevik (1998, 2001) provide a starting point for further investigation about educational MOOs.

For this project, students met virtually in Learning Communities MOO (LC_MOO) hosted by Charles Sturt University. LC_MOO (2000) is an educational MOO providing educators and professional groups with a facility to explore and develop synchronous group practices. LC_MOO provides a secure online environment for young users, with restricted access overseen by the administrators.

Using an educational MOO with 11 and 12 year olds raises a number of challenges. The difficulty and length of text appearing on the screen resulted in the 'construction' of a separate area of LC_MOO that was user-friendly for the age group. Coordinating session

times across two or three schools with different timetables and different term dates was difficult. Responding to the unexpected and unforeseen events that arise in primary schools, multiplied by the number of schools participating in a group, meant that the program did not always operate as planned. Network problems across two or three networks also affect the reliability and regularity of meetings. It has been found that students' typing skills and their ability to read the screen and to follow the dialogue over different threads of discussion improve with time. These issues are ongoing, and have arisen every year the program has been in operation. For the participating teachers, the efforts have been rewarded by the engagement of the students in their learning experiences and the development in students' thinking and social interactions.

Teachers reflect on, evaluate, and refine program delivery constantly - regardless of the environment they work in; and the team involved in the LC_MOO literature circle program are no different. Therefore, the program has always been under constant development. To ensure the accurate recording of this development, teacher-participant correspondence on all matters has been an important part of the data collection. Student evaluations were also designed for their educational purpose and value, not necessarily for ease of analysis. The balance between being the researcher, an active participant, and a teacher was addressed by collecting a broad range of data to ensure that the students and teachers perspectives were recorded. Analysis will draw heavily on these different perspectives.

Data collection was carried out during 2001 and has been completed. Three major types of data have been collected:

- Transcripts of the discussions conducted by the groups in each class throughout their participation in the program.
- Teacher correspondence, including planning, reflections, and the development of work outlines for students.
- Student feedback and evaluations of their online experiences.

Data on two classes working in LC_MOO have been collected. Each class will be analysed separately so that comparisons can be made to explore possible correlations.

To address the research topic it is necessary to examine different aspects of the literature program including:

- the use of the MOO environment.
- teacher planning and collaboration.
- student interaction and dialogue.
- the development of group processes to support collaboration.
- the operation of literature circles.
- the development in students' abilities to discuss literature over the duration of the program.

Preliminary analysis has focused on examining small pieces of data, mainly the transcripts of single sessions involving several groups, to investigate these specific aspects of the research topic. This has allowed the researcher to develop and refine a complex coding system in NVivo that supports analysis from multiple perspectives. Coding has been developed to identify: the use of programmed features in the environment, the methods of communication, how students acknowledge and respond to each other, examples of group dynamics, social interaction and group management,

discussion questions and responses, discussion interaction and types of teacher participation. This coding will support a significant part of the data analysis.

Analysis at this stage has included: an examination of the ratio of contributions per student in a group, the range and frequency of communication commands students use, the development of group processes to support online interaction and how students use their literature circle roles to organise and conduct discussions. At this stage, most analysis has been drawn from the transcripts generated during online discussions. Other types of data have yet to be explored.

Findings to date have been published in several papers and have provided early indications that the MOO environment does support the learning of younger students.

- The programming features and communication commands available in an educational MOO support student interaction (Bales 2001a)
- The development of group dynamics and the application of cooperative structures in program design encourages equal and shared responsibility from all participants. (Bales, 2001b, [in press])
- The use of literature circle roles provides a structure for effective and meaningful discussions involving all group members. (Bales, 2001c)

The next - and major step - is to build on the understandings gained in the preliminary data explorations to begin the coding and analysis of a complete set of data from one online class. Findings from this analysis will then be explored and correlated with the analysis of the data generated from the second class.

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