

Part 2: Analysis of Case Study

The case study entitled "Grouputer – Planning for Shakespeare" examines the use of ICT being integrated into a learning environment. The case study involves a year 9 class at Belconnen High School who are using a form of ICT called "Grouputer" to plan a production of a Shakespearean play. Belconnen High is a co-educational government high school situated in Hawker ACT. The class involved in the use of "Grouputer" consisted of 2 teachers and 46 students, who were of mixed ability and included hearing impaired and ESL students.

The Grouputer system "comprises Decisions software suite, 4, 8 or 12 keyboards and keyboard extension cables, Grouputer expansion Card or Box." (Step up Systems, 1996) In this case study the "Grouputer" system consists of 12 keyboards and extension cables linked to 1 IBM compatible processor. Displays are sent to multiple monitors or a data show panel. The students are divided into groups and allocated their roles for the production of the play, for example, performers, sound and lighting crew, etc. Each of the 12 keyboards represents a group of students and their particular role. Each group of students can simultaneously enter, view, comment and develop collaboratively as their ideas are moved from an individual area into a common area on their displays. This way of learning can "allow different students to engage in different tasks simultaneously" (Fisher, C. & Wilmore, F. & Howell, R. 1994). A specific software model, "Creating our Future", allows electronic brainstorming and strategic planning focus, and combines "PowerPoint" or interactive referencing, i.e. CDROM encyclopedias or Internet sites. The teacher's role is to facilitate.

“Grouputer” focuses on student-centred learning; therefore the teacher acts as a facilitator. Firstly, they must define, determine and identify the tasks, software modules and categories that will be used with “Creating our Future”. The categories in the case study utilised “De Bono’s Six Thinking Hats” as organising structures catering for a range of learning styles. This is a technique where “there are six metaphorical hats and the thinker can put on or take off one of these hats to indicate the type of thinking being used. This putting on and taking off is essential. The hats must never be used to categorize individuals.” (Stanford University, n.d.) Secondly, the teacher allocates keyboards to students, selects group goals and introduces tasks or questions. The teacher must ensure the students use “Grouputer” as an “information gathering and processing tool” (Crook, 1996) with the main focus on English. Finally, the teacher must observe student interaction, review ideas and plans, support constructive student reflection on learning, appraise written, oral and presentation work and recognise students’ use of ICT in other learning areas.

“Grouputer” develops students “group processes in open ended learning” (Crook, 1996) with several positive learning outcomes. Through interaction with peers, students develop productive co-operative teamwork skills. Students are purposefully engaged in “The development of function and critical literacy skills to equip students to control understand, reflect on and critically analyse their own and others' use of language” (Department of Education and Training, 1999). They are also engaged in collecting, organising, interpreting, communicating and evaluating information. Students reflect on outcomes through the processing, storing and presenting of ideas to defined problems. Students plan and monitor progress, using lateral and higher level thinking to review and

solve problems creatively while predicting and analysing outcomes and ideas. This result is more constant use of the higher learning skills of synthesis, analysis and prediction. Students are engaged in utilising ICT across the curriculum as a tool for extending and applying concepts rather than learning isolated technical skills.

The “Grouputer” system requires a coordinated, well-organised, collaborative structure to work effectively. The school’s executive IT teacher, Catherine Crook, believes that “working with staff forms the development team for ‘Grouputer’ within the school” (Crook, 1996). In the case of the year 9 English class, Catherine works with 2 teachers. These teachers then work with the student groups. Effective time management is essential, as time constraints can hamper the success of the project. This is due to the central role of the facilitator in the system. Students, both individual and in groups, must work collaboratively with the teachers and the executive IT teacher. Failure of the hardware, particularly the IBM processor, would hamper the success of the system. Adequate back-up procedures for data, power and hardware could reduce the risk of problems.

There are several issues related to diversity and inclusivity in regards to race, class and gender with “Grouputer”. Students from low socio-economic areas may have less access to technology, and may need more time to become familiar with the ICT resources. This problem has been labelled as the "digital divide-the hard truth that rich people have technology and poor people, often, don't." (Dundas, 2004) The unfamiliarity or problems adapting to new technology can result in feelings of alienation and frustration with

teachers and students alike. A collaborative and positive environment can help to overcome these problems.

The system requires extra resources for successful implementation. Firstly there is the cost of hardware and software, and then there is the technical expertise needed to implement, develop and support the hardware and software. Thirdly, there are time resources required to coordinate, plan and modify the software.

This form of ICT has been implemented for several reasons. Engaging students with ICT in schools prepares them for the technological world. "Grouputer" can function as a tool across many subject areas, allowing school wide integration of ICT in curriculum development. The "Creating our Future" software is flexible and can be adapted for different areas. Through the use of ICT, Shakespeare and the English subject area are revitalised, giving them greater relevance. "Grouputer" develops critical group processes and student-centred, open-ended learning. Teachers facilitate the students as they engage in, and construct knowledge for themselves. Another reason it is used is because it "can be flexibly integrated into teachers' curriculum plans..."(Wang, F. & Reeves, T.C, 2003). Engaging students with ICT also allows teachers to, "Better meet the needs of students readying themselves for a life in a new millennium" (Judy Selpeter, 1999)

The "Grouputer" system has several limitations for both students and teachers. The level of ICT skills can disadvantage some students or teachers. Lack of ability can cause students to lose focus, while teachers can feel inadequate and lack control, technology can be "both exciting and threatening" (Groundwater-smith, p151, 2001). Students must

work collaboratively for success. Teachers require time to learn how to use the “Creating our Future” software module to develop tasks. For technology to be a successful tool for learning a the computer environment needs to provide the tools for “empowering learners to engage in cognitive struggle with a new learning situation, allowing them to take control of their own learning, reflecting on their thinking and on the consequences of choices they make”(McInerney & McInerney, 2002,p163). If planned and utilised effectively, “Grouputer” can aid in integrating ICT into schools, and developing a constructivist approach to student learning.

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