Move Over Solitaire - Here Comes Clipart Breakdown

Gwen Blake

Western Institute of Technology at Taranaki (WITT)
New Plymouth, New Zealand

bblakke@xtra.co.nz

ABSTRACT

Tutors strive continually to find suitable and innovative teaching resources for the papers they teach. Electronic resources, once identified, designed and developed can become valuable tools in the tutor's toolkit. A generic resource, one that can be used on more than one paper or course, can be of extra value. More students appear to be not only experienced with, but also enjoy using computers. This paper describes the origins and development of the electronic resource; Clipart Breakdown, observations on its practical applications and conclusions drawn from these observations.

Whilst further research is required to substantiate the benefits, some results that have been observed were:

♦ Ability to provide hand-eye co-ordination practice to students who have low level computer skills

♦ Better concentration and recall from students

♦ Calming and focusing of over-active students

♦ Fun activity for orientation events

♦ Appreciation of the design and structure of clip-art

♦ Social interaction between students.

Keywords: Electronic resource, innovative, generic

1.   INTRODUCTION

Present day teenagers have been described as 'the computer generation' as most youngsters have grown up with a television as a focal point in the home. Many homes and schools now have computers and generally teenagers have not only gained experience with on-screen activities but also enjoy using computers. One has only to observe students entering a computer lab. They do not sit and wait for the tutor - they turn on the computers and start 'surfing - either the Web or the computer's environment. They can't wait to 'get at 'em'.

Publishers now produce textbooks that are accompanied by some type of electronic resource, either CD or a site on the World Wide Web for both tutors and students' use.   Generally, more people recognise the benefits of electronic resources to support teaching philosophies and methods, therefore designing and developing such resources has become almost mandatory in the life of an IT tutor teaching the NCBC and ICBC.

2. THE IDEA

Listening to a fellow tutor describing his ideas and methods whilst designing and developing an electronic resource for use with HF100 (Hardware Fundamentals) was fascinating. His resource was being developed in Dream weaver, using HTML code. The tutor hoped the resource would enable students to recognise the components of a CPU and the order in which they were assembled. The resource was setup so that pictures of the motherboard, the RAM and other cards and cables would appear, randomly scattered about the screen. The student would be required to drag and drop the pictures resulting in an assembled CPU. A message would then appear to give feedback on their performance.

The writer considered taking the basic idea of dragging and dropping objects on the screen and using it with the application Microsoft PowerPoint. At this point no thoughts on educational theory or practices were considered, apart from professional knowledge and experience in the use of colour and interactivity with computers (Alessi and Trollop, 2001).

3. WHAT IS CLIPART BREAKDOWN

Clipart Breakdown is really a 'no-brainer' activity. It is a file made in Microsoft PowerPoint, consisting of 20 slides, each of which contain two graphics, one on the left of the screen and one on the right. The graphic on the right has been 'exploded' into smaller objects and they have been placed randomly on the screen. The images are attractive and interesting both in colour and shape.

The object of the exercise is for the user to drag and drop the elements to position them back in place. The picture on the right should then look exactly like the picture on the left. The judgement of the user will determine the degree of success of the activity. Students are not required to 'think' in order to solve any strategic problems other than to reconstruct an image so that it matches the image on the left of the screen. This resource offers an activity similar to Solitaire without having to use the mind to process order of colour and numbers.

4. DESIGN AND CONSTRUCTION

Using the drawing tools in Microsoft PowerPoint a vertical line was placed in the centre of a blank slide to create two equal divisions. On the left hand side, an item of clipart was copied and pasted from another application. Once positioned and re-sized to suit the dimensions of the area, the clip was then copied and pasted into the right hand area. The clip on the right hand side was exploded and resulted in multiple objects. 20 slides were constructed; the degree of difficulty increasing with each slide.

Students were required to drag each object and place it back in its original position as portrayed in the complete and original clip on the left hand side. To assist this activity, students would need to employ extra tools from the Customize menu. There would be no feedback as to the success of the exercise other than the student's own judgement. Features of PowerPoint such as sound, transition or animation effects that may distract the students were not used. The interactivity with the computer required focus and hand/eye coordination only.

5. APPLICATION OF THE CLIPART BREAKDOWN RESOURCE

This resource had been constructed simply out of interest. There was no problem to be solved and no concept to illustrate. The resource was copied onto a 3.5 floppy disk and stowed in the writer's briefcase awaiting an opportunity for use. At the time of writing, the resource had been used on four occasions as described in the following sections.

5.1 FIRST USE OF THE RESOURCE

The first opportunity to use Clipart Breakdown came one hot sticky day in the late afternoon of October 2001. The 20 students in the class were irritable and restless. The session was to be a theory based lecture and required focus. Clipart Breakdown was quickly loaded onto the IT Department Intranet, making it accessible from all computers. Students were asked to find the file, open it and then given instructions on how to work.

5.1.1 OBSERVATIONS

There was silence for the next 2 hours! All students were totally focused on their screens and, from the looks on their faces, contented. One student found it difficult to distinguish between the colours green and red. Approximately 50% of the students completed all 20 slides and asked for more. All students completed at least 10 slides. The tutor was able to 'lecture' to the backs of their heads whilst they concentrated on their screens. The activity on screen required no mental agility other than that required for hand/eye co-ordination. When later questioned on the content of the lecture, it was apparent that students had listened to and comprehended facts and figures as well as concepts.

5.2 SECOND USE OF THE RESOURCE

The second opportunity arrived within a couple of days with a similar situation with the second group of 18 CBC students. A class of 18 students were tired, unsettled, and irritable; they were focused only on 'home time' despite there being 2 hours to fill before that 'magic moment'.

5.2.1 OBSERVATIONS

Again, the results were similar, with an added dimension. It was observed that students became competitive. They vied with each other to see who would be the first to complete the slides with the greatest accuracy. They 'checked' each other's completed clips, to make sure they had been reconstructed correctly. It was noticed that a student had lined up two lines horizontally, but they were offset. When challenged about this he insisted that they were level. Approximately 75% of students completed all 20 slides; the remainder completed more than 15. This could have been due to either a higher skill level or to the rivalry element. Despite this added activity, students were able to answer questions on the lecture most satisfactorily.

5.3 THIRD USE OF THE RESOURCE

Two 'Orientation Fun Days' were held at WITT in February of 2002. Each department in the institute was asked to organise a fun activity in which students from all faculties could participate. Clipart Breakdown was selected to fulfil this criterion. Many students were not computer literate; indeed some disabled students had never manipulated a mouse before. Some training had to be given to these students and they then worked slowly to perform the tasks.

5.3.1 OBSERVATIONS

All students remained focused throughout their attempts. Disabled students had to be told to stop when their carer wished them to progress to another department's activities. One student found it difficult to discriminate between the colours blue and brown. Computer literate students appeared to enjoy the exercise; only a small minority completed every slide.

5.4 FOURTH USE OF THE RESOURCE

Whilst teaching CIC07 (Business Communication Skills) one student (X) was observed to be disrupting the class. Being a poor attendee, the student was not in a position to complete the exercise of the day; this was exacerbated by the fact that he arrived nearly an hour late. It must be stated also that the student in question had been displaying behavioural problems in class and a number of his fellow students had complained about this. To settle the student down student X was asked to 'evaluate' a new resource and was introduced to Clipart Breakdown. Meantime, the other students carried on with their computer-based exercise while the tutor embarked on a small lecture.

5.4.1. OBSERVATIONS

Student X remained focused, quiet and still throughout the remaining hour of the session. He asked several times what 'it' was called and asked if there were any more programmes like this. He completed 10 slides without any apparent difficulty. The tutor later sat with him and asked some questions on the lecture she had just given. It was apparent from his answers that he had listened to her and understood every concept presented in the lecture.

6. CONCLUSIONS

As stated earlier, this resource was not made with any particular learning principles in mind and it was only after applying the resource that one became aware that certain such principles had been applied and resulting information had then become evident and available. Possible clues to individual visual perception and visual ability may be forthcoming and so prevent self-fulfilling predictions on the part of tutors (DeVito 1994). Had the resource been designed to accommodate possible visual defects, one would not have had the opportunity to detect the condition.

Practice for effective listening was offered by producing a lecture without distractions that would otherwise be present. (Pinner and Pinner, 1997). "We not only learn by observing but by doing. Interaction not only maintains attention but creates and stores new knowledge and skills". (Alessi and Trollop, 1991) Whilst most would not argue with that statement, observations on students using Clipart Breakdown to date suggest that students might listen more effectively while 'doing'. It appeared that by providing a focused activity that required only the hand/eye co-ordination facilities, the student was better able to receive aurally, then process and store information. In other words, by employing the person with mentally undemanding and repetitive physical tasks, cognitive activity centred on information from another source was able to take place.

7. SUMMARY TO DATE OF AREAS OF POSSIBLE BENEFIT:

- ♦ Hand/eye coordination
- ♦ Software learning and practice
- ♦ Appreciation of the design and structure of clip-art
- ♦ Calming and focusing of over-active students
- ♦ Listening Practice
- ♦ Indication of individual student perception
- ♦ Problem solving.

It is proposed to share this resource with other tutors in the hope that they will find ways of using it in appropriate situations. Based on their feedback, further analysis may be undertaken.

REFERENCES

Alessi, S.M., Trollop, S.R., (2001). Multimedia for Learning: Methods and Development (3rd ed.) USA: Allyn and Bacon.

Alessi, S.M., Trollop, S.R., (1991). Computer-Based Instruction: Methods and Development (2nd ed,) New Jersey: Prentice Hall.

De Vito, J. A., (1994). Human Communication: The Basic Course (6th ed.) New York: HarperCollins College Publishers.

Pinner, D and Pinner, D., (1997). Communication Skills (3rd ed,) Auckland: Longman Paul Ltd