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**Research
Note**

**CAL_Maker, Clinical Placement and
Questionnaire**

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The pre-registration nursing programme at the University College of Central Queensland (UCCQ) has a commitment to the use of computers to support teaching and administration. A dedicated student lab containing Macintosh Plus computers, Macintosh and IBM/MS-DOS computers for lecturers and staff, and a software development programme form part of this commitment.

In 1989 the School of Health Science (SHS) decided that the most feasible development strategy was to work on computer assisted learning (CAL) materials that could be used in tutorial sessions after a topic had been introduced in class. Small group tutorial time is at a premium and the CAL materials would allow the students to engage in conventional tutorial activities without requiring the physical presence of a lecturer.

A Case Study format was selected to present a brief description of a clinical situation and manage the questions which arise from it. It was agreed at that time that the Case Studies should allow an individual or small group of students to use their knowledge for solving the problem presented and to expend their ideas about the situation.

The initial instructional design was very flexible as many of the staff lacked experience using computers and/or developing CAL materials. As staff gained experience developing resources they have become more critical of their own work and have expanded their skills in instructional design. Twelve case studies were available in 1990 and student acceptance of the materials has been very good.

CAL_Maker is a software tool for converting a lecturer's text file into the case study format for student use. CAL_Maker, a HyperCard application for Macintosh computers, accepts a text file with plain English formatting commands as input and produces a HyperCard stack as output. The tool was developed by Bruce Young, a UCCQ computing student as his computing degree 'Project' and is typical of the support that SHS has received from students within UCCQ.

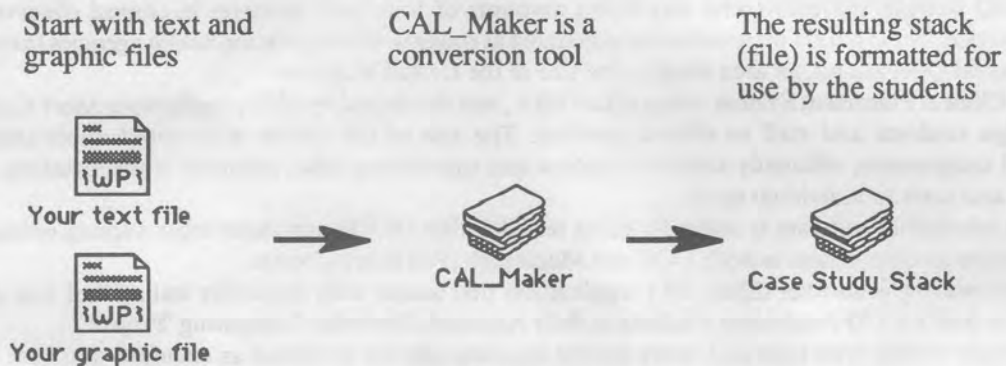


Figure 1.

CAL_Maker allows for the presentation of textual and graphic information and has a variety of question formats (2-4 response multiple choice or true/false, multiple choice selection from a list of up to 14 alternatives, matching from 2 lists, etc.). Feedback for student responses is required and students may send a message or short written response to the lecturer for delayed feedback. This allows the preparation of a number of instructional units that are fairly consistent, and will remove the need for instructors to be more than minimally aware of how HyperCard works.

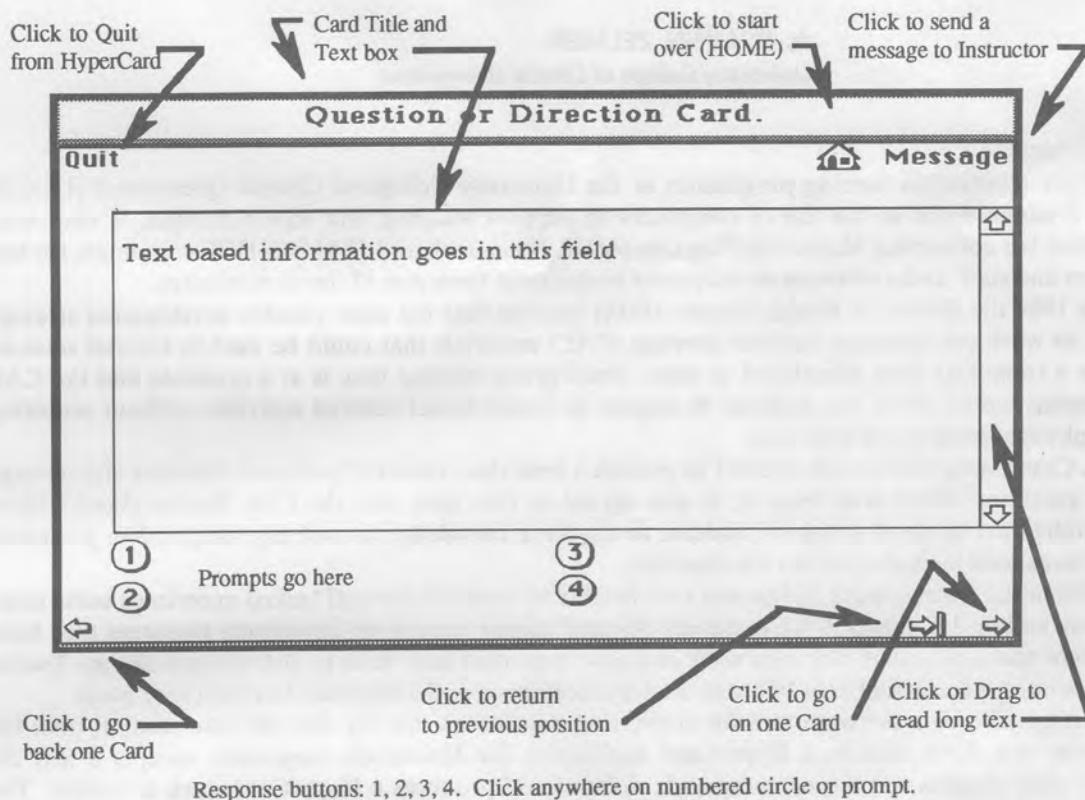


Figure 2: Screen design for a question card.

UCCQ nursing students spend significant amounts of time each semester in clinical observation and practice. These hands-on sessions are scheduled at roughly 40 cooperating health agencies throughout Central Queensland, an area roughly the size of the United Kingdom.

The **Clinical Placement System**, using dBase III+, was developed by SHS programmer Merv Connell to assign students and staff to clinical sessions. The aim of the system is to avoid duplication of clinical assignments, efficiently schedule student and supervisory time, minimise transportation difficulties and cater to individual needs.

This scheduling software is currently being tested within UCCQ and three other nursing education institutions in Queensland in both DOS and Macintosh (FoxBase) formats.

Questionnaire is another dBase III+ application that assists with formative testing and was developed by four UCCQ computing students as their Associate Diploma Computing 'Project'.

Multiple choice, true-false and short answer question sets are prepared as standard database files. The software enrolls students, generates unique tests for each student according to parameters set

by the lecturer and, if used on-line, assesses the student's responses. A record is kept of each test created so that a student's test can be recreated if required. Tests can also be prepared for distribution on paper.

ACKNOWLEDGEMENT

Funding support for this development was received from the National Priority Reserve Fund, Australia and UCCQ. Additional support was received from Apple Australia and the Byte Centre, Rockhampton. The software reviewed above is still under development and is not available for commercial distribution. Nursing education institutions may obtain review copies of selected software materials on an exchange basis.

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