
Communication skills:

a new strategy for training

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A new five-year course in communication skills for medical students has been developed at Nottingham Medical School in response to recommendations from the General Medical Council and a large body of research. As one foundation for this course, a multimedia CAL package was developed to aid acquisition of basic skills and associated knowledge. The CAL course uses extensive digital video for illustration, and relies heavily on interaction for learning. Evaluation of the CAL course has used a variety of methods – pre/post tests, randomized trials, and cohort comparisons. Given the investment needed to introduce learning-technology-based courses, initial evaluation has been encouraging and has been used to improve later versions of the material.

Why do we need a new strategy?

In 1993 the General Medical Council (GMC) published *Tomorrow's Doctors*, a set of recommendations for medical education. Much of this document was concerned with the training of communication skills and how this could be improved. This recommendation follows decades of evidence about the importance of communication from many widely respected medical teachers from every discipline:

Doctors can discharge (their) important tasks effectively only if they possess the relevant skills. Unfortunately, many do not appear to acquire them during their professional training. (Maguire, 1981)

There appears to be a failure sometimes to notice what is really being said... the doctor avoids the acute discomfort of being aware of a problem in which he would rather not get involved. (Norell, 1972).

Particular deficits in the skills of both medical students and qualified doctors were highlighted, often showing that communication with patients got worse as training progressed!

It would appear that, as medical students move through their training, a certain degree of their innate ability to communicate with mothers of sick children seems to have been altered by their desire to obtain factual information. (Heifer, 1970)

This points to a failure of the traditional 'apprenticeship' model in teaching these particular skills.

Several studies have now been conducted which show that specific training methods can produce gains in particular skills (Truax and Carkhuff, 1967; Ivey, 1971). Research has identified certain basic tasks and approaches which lead to improved communication. These include addressing the concerns of patients other than their immediate physical complaint, explaining terms and procedures in lay language, dealing with patients' anxiety, embarrassment and anger, and improving patients' recall and retention of information and advice (Balint and Norell, 1973; Evans *et al*, 1993; Ley *et al*, 1976; MacKenzie, 1975; Scott *et al*, 1991; Uhlemann *et al*, 1982). Attention to these details, especially the last, has also been positively correlated with patients' compliance with advice and medication regimes.

Tomorrow's Doctors outlined 14 specific recommendations for improving doctors' communication with patients. We have based our new strategy around this core.

Also of increasing importance are diminishing staff-to-student ratios – from 1:8.4 in 1970 to 1:11.3 in 1989 (AUT, 1991) – a trend which has continued. Ever tighter budgets, within which higher education is forced to operate, also have a big impact. Medical schools are also faced with the challenge of an ever more diverse student body to cater for: for example, greater numbers of European Union and overseas students. It is hoped that the new strategy will prove both more efficient in achieving its goals and more flexible in its provision for different modes and styles of learning.

The new strategy

At Nottingham a new five-year course in communication skills has been designed to replace traditional teaching. This course integrates taught classes, seminars, clinical experience and a CAL package. This CAL is intended to provide basic knowledge and experience of the use and improvement of communication skills.

Our medical students arrive at Nottingham from a wide variety of cultural, social and educational backgrounds, and consequently there is considerable variation in their experience of communicating with different types of people and their level of skill. The CAL package is planned to give them all enough knowledge and awareness of the subject so that they can begin to improve. The CAL material incorporates a selection of instructional methods and styles such as Mental Practice, Modelling, and Drill and Practice, providing immediate feedback on the student's actions. It provides a safe environment for students to learn and practise new skills, or improve existing ones.

The achievement of effective communication skills is assessed using the Objective Structured Clinical Exam (OSCE) format. Communication skills are assessed objectively against validated behavioural checklists as an integrated part of a series of clinical tasks the students are required to tackle.

How are the new strategies incorporated into the CAL package? The CAL package consists of seven, 30+ minute units which are based on the GMC recommendations. These units are:

- Opening an interview;
- Eliciting patients' views and concerns;

- Dealing with negative emotions;
- Principles of communicating with patients whose first language is not English;
- Summarizing and clarifying information;
- Exposition of information and procedures;
- Closing an interview.

This is not intended to be a comprehensive list, but these topics are relevant in the majority of medical interviews and are commonly done poorly.

Each topic is presented in a structured fashion, looking first at the importance of the topic to the patient and the doctor (see Figure 1). It is then broken down into relatively straightforward tasks such as identifying verbal and non-verbal cues and suggested appropriate principles of dealing with the situation. The suggestions are not encyclopaedic, and the students are encouraged to analyse the material in ways which help them develop their own practices.

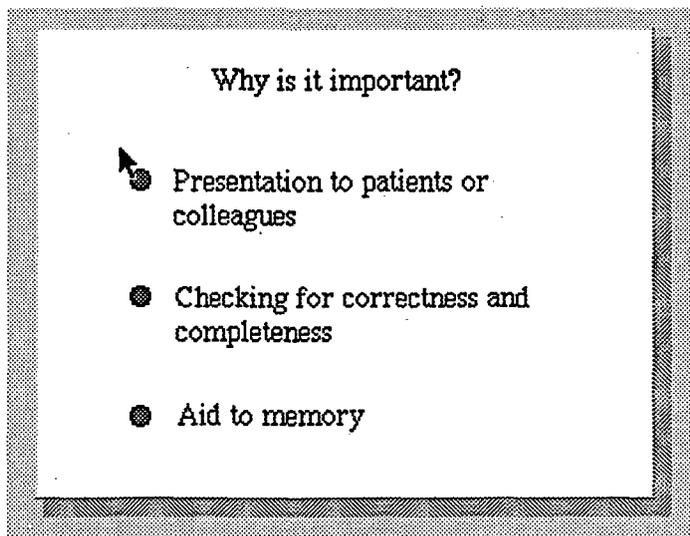


Figure 1: A screen from the unit on summarizing and clarifying information, illustrating the small amount of text used and the structure of the information

In order to avoid information overload, the amount of text on the screen at any one time is kept to a minimum. Important details are presented as bullet points which can be clicked to play a voice-over with more information (or displayed as text if the user wishes). Each unit is kept relatively short and focused: students should finish each unit in about 30 minutes, well within their attention span.

Interaction and discovery learning (where the student alters variables and predicts results) are used to encourage analysis of situations and practice of appropriate courses of action – an example is shown in Figure 2.

Most importantly, large amounts of video footage have been incorporated to illustrate situations and provide models for the students – see Figure 3. These films were produced using actors and actresses, but the scenarios are based on our analysis of lengthy recordings of real consultations.

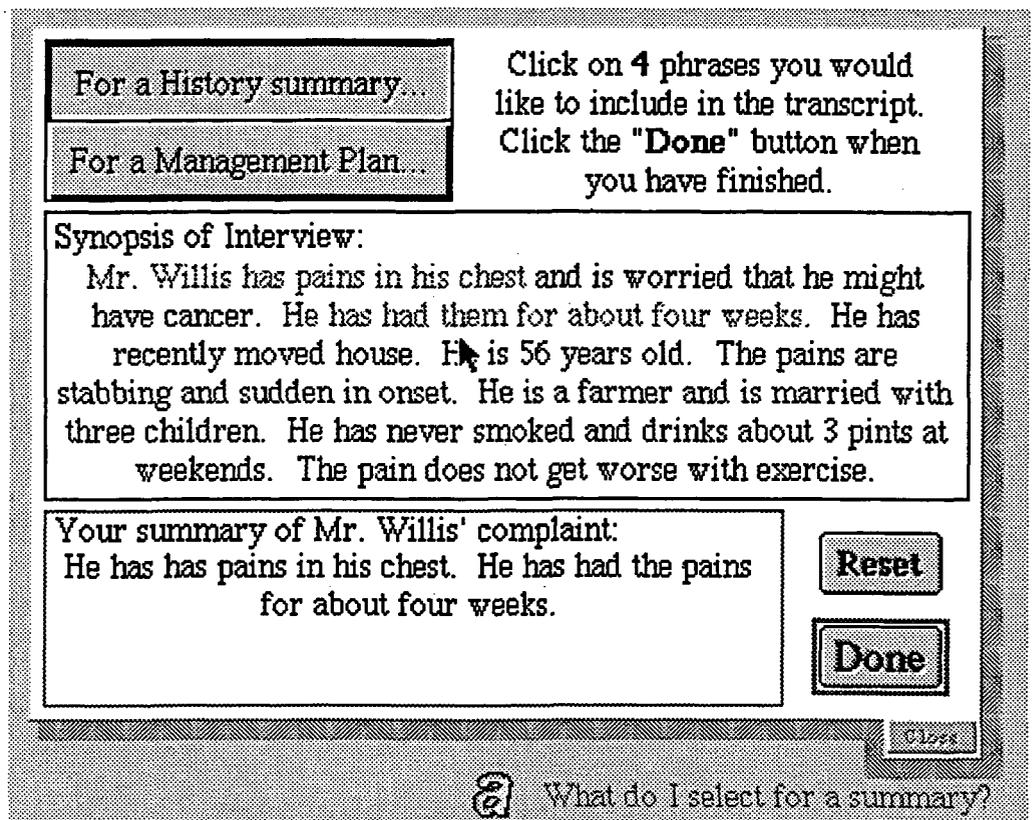


Figure 2: A screen where the user is asked to carry out a task identifying key information for a summary

How are we evaluating this?

Our first evaluation of this type of training was in 1993 when we compared two methods of teaching first-year medical students about non-verbal communication (Garrud *et al*, 1993). The study sample was large ($N = 151$), and subjects were randomly allocated to either a traditional lecture or a CAL package on the same material. The content of the CAL was agreed by the lecturer to cover the same material. All the subjects were then given a surprise test on their knowledge of non-verbal communication. The test was set by the lecturer and the CAL authors jointly.

The package was used by 60 of the students allocated to it (80%), and the lecture was attended by 61 students (80%). Median usage of the CAL package was for 45 minutes (range 15–120 minutes) with over half using it only once. Test scores ranged from 1.5 to 7.9 (maximum = 10) with a normal distribution. Mean scores were: CAL group 5.2; lecture group 4.4 – a reliable superiority of CAL over the lecture ($p < 0.01$). There was also a strong correlation within the CAL group between score and duration of use (Pearson correlation coefficient = 0.45, $p = 0.0003$). Overall academic achievement was compared for the two groups using end-of-year examination scores – no significant difference was found ($p = 0.32$).

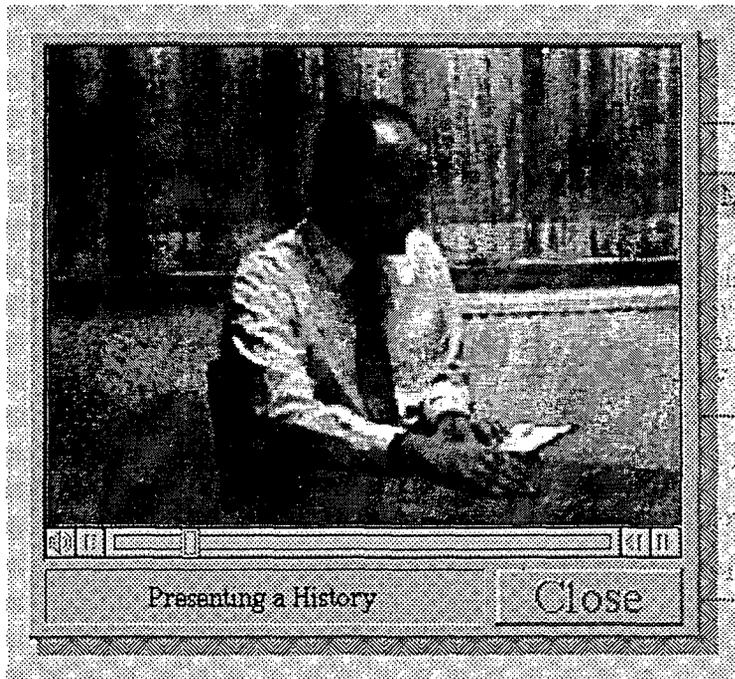


Figure 3: An illustration of the use of digitized video in the course

Analysis of student evaluation questionnaires revealed that 95% of students found operating the program easy. The majority of CAL users found that it enabled learning well, and was a good use of their time.

During the development of the communication skills CAL course, we produced a prototype unit and evaluated it using 11 volunteer students. Performance was analysed using a structured, 11-point scheme (similar to those used in the end of year OSCEs). We also videotaped students using the CAL package, and used this data (in conjunction with data automatically recorded by the package) to analyse the ergonomics. Although the sample was too small to show any significant results, the ergonomic data allowed us to modify the packages to avoid commonly encountered problems such as difficulty in closing inset boxes to return to the main screen.

It is intended that a larger pre/post test study ($N > 20$) will be carried out on the full course. The data from this will be compared with students' performance on other measures such as transcripts of real patient interviews which they have conducted for other purposes, and their results in the end-of-year examinations.

By the end of the year, all students in the first year ($N = 170$) will have had the opportunity to use the CAL course. We intend to analyse student performance in the end-of-year OSCEs to examine the relationships between duration of use, number of uses and overall marks. Results will also be compared to last year's cohort who were not exposed to the CAL. This will provide some medium term (~ 4 months) data.

Finally, by monitoring students' use and re-use of the CAL course we will gain some insight into the lasting popularity of the material as a learning resource.

Conclusion

In developing a new strategy to cope with the changing nature of medical education, we have found that computers can offer many advantages over traditional methods of teaching and learning. The key benefits of CAL for training communication skills are:

- a safe environment to practise communication where mistakes are not made with real patients;
- a student-centred resource, allowing individual students to work on the aspects relevant to them at their own pace; and
- the use of multimedia exemplars, which the student analyses and interacts with. Our evidence so far suggests that the CAL resource helps students to improve their communication in two ways – learning simple plans and procedures to tackle common communication situations; and developing confidence to practise their skills in clinical settings.

There are also costs and limitations. This development used £10,000 in funding, and took two years from inception to delivery. The CAL course has yet to prove its cost effectiveness over traditional methods (cf. Gibbs, 1993).

It is not intended that CAL should replace all traditional teaching on the course. It is another weapon in the educator's armoury and a powerful one, but it needs careful integration into the overall structure of a course. Overall, we feel that CAL provides sufficient added value to our teaching that it justifies its use in this course.

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