

Title: Computer-based self-learning packages (study modules) as a learning resource in an undergraduate surgery curriculum.

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Introduction:

The last two decades have seen rapid advances in the field of medicine as well as in information technology. The traditional lecture based system is no longer sufficient to handle this explosion of knowledge. The computer-based learning is being increasingly employed as there is increasingly less faculty time, it affords the flexibility to the students in terms of time and place and to learn even when away from school, thus it the need of the hour. This project involved designing two, computer based self learning packages (SLPs), using them as adjunct material in the undergraduate surgery curriculum, and assessing whether the SLPs led to increasing learning.

Methods:

Two SLPs were prepared to cover the high impact conditions of hematemesis and obstructive jaundice and introduced to 40 undergraduate students in year 4 in a 5 year curriculum. The CD-ROMs included text and tutorials, charts and algorithms, photographs and video clips, case summaries and the procedures, topic summary and the quiz. A cross-over design was adopted, with the students divided into control and study groups. Pre-tests and post-tests were administered before and after the modules. Computer literacy scores, academic scores, time spent on the modules, and internet use were also recorded. A student feedback questionnaire for program acceptability was administered at the end of the study.

Results:

Students who studied the topics by using the prepared SLP's performed significantly better on the post-test as compared to the control group. The difference between the pre- and post-test performance of the study group for both the modules was also significant. This difference was not significant for the control group. For the module on hematemesis the mean pretest score for the study group was 40.3 and the posttest score was 47.4 this difference was highly significant (**p value = 0.0045**) and for the module on obstructive jaundice the mean pretest score was 33.4 and the posttest score was 51.7 which was also highly significant (**p value < 0.001**) There was a significant correlation between time spent on the module and post-test performance. (**p value < 0.001**)

Conclusions:

This project successfully introduced the concept of self-directed learning with computers as a learning resource. With the encouraging results on beneficial gains in knowledge and acceptability by the students and faculty, we will continue the project and this year we plan to develop 10 modules in Surgery and the allied specialties as well as in other subjects and introduce them to the students. We also plan to train the faculty for developing the SLPs and conduct workshops.

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