

UNIVERSITI TEKNOLOGI MARA

**EVALUATING THE EFFECTIVENESS
OF AN INTERACTIVE MULTIMEDIA
COURSEWARE ENTITLED
“*STRUKTUR SEL DAN FUNGSI BAHAGIAN SEL*”
FOR THE SPM BIOLOGY SUBJECT**

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ABSTRACT

The purpose of this study is to identify the potential of e-learning courseware application as a teaching aid in the Malaysian school system. This study focuses on evaluating the effectiveness of a prototype IMM (Interactive Multimedia) Educational CD-ROM courseware on the Biology subject, developed personally by the researcher, that was tested at three selected Smart Schools in Melaka and Johor.

This study focuses on identifying the effectiveness of using multimedia as a medium of teaching at three selected Smart Schools in Melaka. The topic chosen for the educational interactive multimedia courseware development is entitled "*Struktur Sel dan Fungsi Bahagian Sel*" for the SPM Biology subject.

This experiment was conducted with the Form Four students of Sekolah Menengah Sains Muar, Johor; Sekolah Menengah Sains Muzaffar Syah and Sekolah Menengah Kebangsaan Dato' Dol Said in Melaka.

The researcher used three types of instruments for this research, namely the IMM prototype CD ROM itself, the pre- and post-test questions forms, and two sets of questionnaires. The researcher used the 'before and after' assessment method which necessitates the implementation of the pre- and post-test evaluation. The pre-test session is later followed up by a second stage - a two-approach learning-methods session (multimedia and conventional) and closes up with a post-test session. The final step of the experiment is the filling of the two sets of questionnaire forms.

The first result was from Sekolah Menengah Sains Muar, Johor. The pre-test result indicated a 63.07% score from the Experimental Group. After viewing the IMM prototype CD ROM, the post-test result showed an 18.85% increase, up from the pre-test result, thus proving that using the IMM has affected the increase in the student performance.

The second result coming from Sekolah Menengah Sains Muzaffar Syah. It showed that at the pre-test 74.58% was the initial score but it increases later to 84.16% during the post-test, thus giving a 9.58% improvement indicator.

Then the final result came from Sekolah Menengah Kebangsaan Dato' Dol Said. Students involved in the experimental groups showed a performance of 51% at the pre-test to 71.75% after viewing IMM at the post-test, giving an increased efficiency of about 20.75%.

The finding from this study supported the researchers' earlier hypothesis such as enhance and improve learning process. Students more understanding and interested in using the IMM courseware rather than conventional method. Finally it can concluded that the research is a success and has its objectives indicated through the results, using IMM prototype CD-ROM to learn the topic "*Struktur Sel dan Fungsi Bahagian Sel*" for SPM examination.

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