

**FAKULTI PENDIDIKAN
UNIVERSITI MALAYA**

Pengakuan Keaslian Penulisan

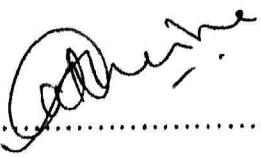
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PROBLEMS OF APPLICATION OF

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SCIENCE CONCEPTS IN REKA CIPTA AMONG FORM FIVE STUDENTS

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PROBLEMS OF APPLICATION OF SCIENCE CONCEPTS
IN REKA CIPTA AMONG FORM FIVE STUDENTS

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ABSTRACT

Science concepts play the vital role in the new subject, *Reka Cipta*, launched in schools in Malaysia. Item 1.4 (iii) of the Evaluation Criteria 1996 of the Examination Board, Ministry of Education requires students to state the science concepts that they apply in their inventions and innovations. Despite their significance, science concepts are not taught explicitly in *Reka Cipta* lessons. It is assumed that students know and are able to apply the required concepts in their inventions. As such, it is envisaged that students will face problems as there is no standard *Reka Cipta* text book or guide book made available to them.

This study involved Form Five students who were taking the elective *Reka Cipta* subject in one of the districts in Sabah. This study managed to identify some of the basic science concepts these students used in the *Reka Cipta* 1998 syllabus. It is found that majority of these students perceived that science concepts were vital in inventions. These students often applied science concepts in their *Reka Cipta* lessons and therefore, felt that they should be taught this aspect in their *Reka Cipta* classes. Several problems with regards to the application of science concepts by the students were also identified. As part of the implications of the study, some suggestions for resolving issues relating to science concepts applications in *Reka Cipta* lessons are recommended at the end of this report.

MASALAH PENGGUNAAN KONSEP SAINS DALAM REKA CIPTA DI KALANGAN PELAJAR TINGKATAN LIMA

ABSTRAK

Konsep sains memainkan peranan utama dalam mata pelajaran baru, Reka Cipta, yang dilancarkan di semua sekolah di Malaysia. Seperti yang dikehendaki dalam Perkara 1.4 (iii) Kriteria Penilaian 1996 Lembaga Peperiksaan, Kementerian Pendidikan, para pelajar harus menyatakan konsep sains yang mereka aplikasikan dalam projek rekacipta dan inovasi mereka. Namun begitu, konsep sains tidak diajar secara eksplisit di dalam pelajaran Reka Cipta di kelas. Para pelajar dianggap tahu dan berkebolehan mengaplikasikan konsep sains yang diperlukan dalam rekaciptaan mereka. Dengan demikian, para pelajar akan menghadapi masalah memandangkan tidak terdapatnya buku teks atau buku panduan Reka Cipta yang standard.

Kajian ini melibatkan pelajar-pelajar Tingkatan Lima yang mengambil mata pelajaran elektif Reka Cipta di salah sebuah daerah di Sabah. Kajian ini berjaya mengenalpasti konsep-konsep sains asas yang para pelajar gunakan dalam sukanan pelajaran Reka Cipta tahun 1998. Ia juga mendapati majoriti pelajar berpendapat bahawa konsep sains amat penting untuk merekacipta. Para pelajar ini selalu mengaplikasi konsep sains dalam projek Reka Cipta mereka, dan berasa mereka harus diajar aspek ini di dalam kelas Reka Cipta. Beberapa masalah berkenaan dengan aplikasi konsep sains oleh para pelajar juga telah dikenalpasti. Sebagai sebahagian daripada implikasi kajian ini, beberapa cadangan dikemukakan bagi mengatasi isu-isu berkaitan dengan aplikasi konsep sains dalam pelajaran Reka Cipta.

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