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**SCIENCE ANXIETY OF FORM TWO STUDENTS AND ITS
RELATIONSHIP WITH SCIENCE ACHIEVEMENT,
ATTITUDE TOWARDS SCIENCE AND GENDER**

Gan Fie Chuen

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ABSTRACT

This study was aimed at investigating science anxiety and its relationship with science achievement, attitude towards science and gender of 148 Form Two students from a selected secondary school.

Three instruments were used to collect the data. The SAI-A was used to measure science anxiety with respect to its six dimensions, namely ‘Danger Anxiety’, ‘Science Test Anxiety’, ‘Math and Problem-solving Anxiety’, ‘Squeamish Anxiety’, ‘Performance Anxiety’ and ‘Science Classroom Anxiety’. The SAT and the ATTSSA were respectively used to measure science achievement and attitude towards science.

In summary, the findings of the study are : (1) Among the top ten anxiety-contributing activities were ‘Using flammable chemicals’, ‘Working with chemicals that are poisonous’ and ‘Taking the final examination for a science class’; (2) Significant differences in science achievement were found at $p < .05$ between the high and low anxiety groups for the overall science anxiety and for all the dimensions of science anxiety except for ‘Science Test Anxiety’ and ‘Science Classroom Anxiety’; (3) Significant differences in attitude towards science were found at $p < .05$ between the high and low anxiety groups for the overall science anxiety and for the dimension ‘Danger Anxiety’; (4) Female students showed significantly higher anxiety levels than male students at $p < .05$ for the overall

science anxiety and for all the dimensions of science anxiety except for ‘Science Classroom Anxiety’.

To promote science learning, this study offered specific suggestions to eliminate or reduce specific science anxiety dimensions. Some possible areas for further research were also suggested.

KERISAUAN PELAJAR TINGKATAN DUA TERHADAP SAINS DAN HUBUNGANNYA DENGAN PENCAPAIAN DALAM SAINS, SIKAP TERHADAP SAINS SERTA JANTINA

ABSTRAK

Kajian ini bertujuan untuk mengkaji kerisauan terhadap sains di kalangan 148 orang pelajar Tingkatan Dua dari sebuah sekolah menengah dan hubungan antara kerisauan berkenaan dengan pencapaian dalam sains, sikap terhadap sains dan jantina.

Tiga alat pengukuran telah digunakan untuk mengumpul data. Inventori SAI-A telah digunakan untuk mengukur kerisauan pelajar terhadap sains dari segi enam dimensinya, iaitu ‘Kerisauan Aspek Bahaya’, ‘Kerisauan Ujian Sains’, ‘Kerisauan Matematik dan Penyelesaian Masalah’, ‘Kerisauan Aspek Mual’, ‘Kerisauan Penglibatan Diri’ dan ‘Kerisauan Perolehan Ilmu di Bilik Darjah Sains’. SAT dan ATSSA masing-masing digunakan pula untuk mengukur pencapaian dalam sains dan sikap terhadap sains.

Hasil dapatan daripada kajian ini adalah : (1) Antara sepuluh aktiviti yang menyumbang kepada kerisauan pelajar terhadap sains adalah ‘Menggunakan bahan kimia yang beracun’, ‘Menggunakan bahan kimia yang mudah terbakar’ dan ‘Menduduki peperiksaan akhir tahun untuk mata pelajaran sains’; (2) Terdapat perbezaan yang signifikan dalam pencapaian sains pada $p < .05$ antara kumpulan pelajar yang mempunyai kerisauan tinggi dengan kumpulan pelajar yang

mempunyai kerisauan rendah dalam keseluruhan gabungan dimensi kerisauan terhadap sains dan kesemua dimensi kerisauan berkenaan kecuali dimensi

‘Kerisauan Ujian Sains’ dan ‘Kerisauan Perolehan Ilmu di Bilik Darjah Sains’;

(3) Terdapat juga perbezaan yang signifikan dalam sikap pelajar terhadap sains pada $p < .05$ antara kumpulan pelajar yang mempunyai kerisauan tinggi dengan kumpulan pelajar yang mempunyai kerisauan rendah dalam keseluruhan gabungan dimensi kerisauan terhadap sains serta dimensi ‘Kerisauan Aspek Bahaya’;

(4) Pelajar perempuan menunjukkan kerisauan yang lebih tinggi daripada pelajar lelaki pada keseluruhan gabungan dimensi kerisauan terhadap sains serta kesemua dimensi kerisauan berkenaan kecuali dimensi ‘Kerisauan Perolehan Ilmu di Bilik Darjah Sains’.

Demi meningkatkan pembelajaran sains, kajian ini mengemukakan saranan-saranan khas untuk membendung kerisauan tertentu. Juga disarankan beberapa bidang yang boleh diterokai untuk kajian selanjutnya.

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