

ABSTRAK

Kajian ini bertujuan yang pertamanya untuk mengenal pasti gaya pembelajaran pelajar sains tulen tingkatan IV; kedua untuk mentaksir tahap pemerolehan kemahiran proses sains; dan yang ketiga untuk mengkaji pertalian antara gaya pembelajaran dan tahap pemerolehan kemahiran proses sains mereka. Sampel kajian terdiri daripada 50 orang pelajar sains tulen tingkatan IV (30 lelaki dan 20 perempuan) dari sebuah sekolah menengah yang terletak di daerah Petaling Jaya, Selangor.

Dua jenis instrumen digunakan untuk mengumpul data. Soal Selidik Gaya Pembelajaran digunakan untuk mengenalpasti gaya pembelajaran pelajar. Soal selidik gaya pembelajaran cuba mengenalpasti enam jenis gaya pembelajaran iaitu gaya pembelajaran visual, gaya pembelajaran kecekatan tangan, gaya pembelajaran auditori, gaya pembelajaran berkumpulan, gaya pembelajaran kinestetik dan gaya pembelajaran bersendirian. Tahap pemerolehan kemahiran proses sains pelajar ditentukan dengan menggunakan Ujian Kemahiran Proses Sains Bersepadu II (TISPS II). TISPS II mengukur lima jenis kemahiran proses sains, iaitu membina hipotesis, mendefinisi secara operasi, mengawal pembolehubah, mereka bentuk eksperimen dan menginterpretasi data.

Analisa data untuk soal selidik dibuat dengan menggunakan perisian "*The Statistical Package for Social Science (SPSS)*" Versi 11.5. Kajian dibuat dengan hanya menggunakan bentuk yang melibatkan bilangan dan peratus sahaja untuk menganalisa soal selidik gaya pembelajaran dan TIPS II. Perhubungan di antara gaya pembelajaran dan tahap pemerolehan kemahiran proses sains dibuat dengan menggunakan korelasi Pearson.

Dapatan kajian menunjukkan gaya pembelajaran yang sering digunakan oleh pelajar mengikut turutan didahului dengan gaya pembelajaran auditori, gaya pembelajaran kinestetik, gaya pembelajaran berkumpulan, gaya pembelajaran kecekatan tangan, gaya pembelajaran visual dan akhir sekali gaya pembelajaran bersendirian.

Secara keseluruhan, pencapaian pelajar sains tulen Tingkatan IV dalam Ujian Kemahiran Proses Sains Bersepadu II, TIPS II adalah melebihi tahap sederhana. Kemudahan tahap pemerolehan kemahiran individu proses sains didahului dengan menginterpretasi data, mengawal pembolehubah, mendefinisi secara operasi, mereka bentuk eksperimen dan akhir sekali membina hipotesis.

Seramai 32% pelajar berjaya menguasai kelima-lima jenis kemahiran individu proses sains, manakala 4% pelajar gagal menguasai sebarang kemahiran individu proses sains. Hampir 70% daripada sampel kajian mempunyai penguasaan ke atas satu hingga empat jenis kemahiran individu proses sains. Analisis kajian ini juga menunjukkan terdapat pertalian yang lemah di antara gaya pembelajaran dengan tahap pemerolehan kemahiran proses sains.

LEARNING STYLES AND LEVEL OF SCIENCE PROCESS SKILLS AMONG FORM IV STUDENTS

ABSTRACT

This study attempted first to identify the characteristics of learning styles among form IV pure science students; second to determine the extent to which the students have acquired the science process skill and thirdly to investigate the relationship between learning styles and the acquisition of students' science process skills. The sample of this study consisted of 50 Form IV science students (30 males and 20 females) from a secondary school situated in Petaling Jaya, Selangor.

Two instruments were used in the collection of data. The Perceptual Learning-Style Preference Questionnaire was used to assess the students' learning styles. The Perceptual Learning- Style Preference Questionnaire consisted of six learning style preferences, namely visual learning style preference, auditory learning style preference, kinesthetic learning style preference, tactile learning style preference, group learning style preference and individual learning style preference. The acquisition of science process skills of the students was determined by using the Test of Integrated Science Process Skills II (TIPSI). TIPSI II was designed to measure five science process skills, which include formulating hypothesis, operationally defining, controlling variables, designing experiment and interpreting data.

Analysis of the questionnaire was conducted by using The Statistical Package for Social Sciences (SPSS) Version 11.5. Only descriptive statistics involving percentages and frequencies were used to analyse the learning style questionnaire and TIPSI II. The

relationship between the different learning styles and the science process skills was determined by the Pearson correlation coefficient.

The results show that the auditory learning style was the one most frequently used by the student, followed by the kinesthetic learning style, group learning style, tactile learning style, visual learning style and lastly the individual learning style in that order. Overall, the student achievement in TIPS II was above average. The skills acquired are as follow in order, interpreting data, controlling variables, operationally defining, designing experiment and lastly formulating hypothesis.

All five science process skills were acquired by 30% of the students in the sample, whereas 4% failed to acquire any of the skills. Almost 20% of the sample had acquired between 1 to 4 of the skills investigated. The results also indicated that there was a weak correlation between learning styles and level of science process skills