

ABSTRACT =====

Since the past two decades , a renewed interest in science education has ~~taken~~ place at the different stages of the school system. One of the major outcomes of this renewed interest is a review and restatement of the objectives of science teaching . The current literature in science **education** reveals that science instruction involves more than merely teaching the facts , concepts and principles of science , one of the first tasks of science teaching is to teach the inquiry processes of science .

A second outcome of this interest has been the development of many " new " science curricula at elementary and secondary school, such as: Chem.Study, CBA, BSCS, PSSC , HPP , AAAS, ESS, ...etc, all stress the process aspect of science and the nature of scientific interprise, as well as the knowledge of science.

A number of instrument have been developed to measure student understanding of the processes of science, such as TOUS , POST, TOSP, WISP , SPI ...etc. Several studies have been undertaken to determine the understanding of the nature and process of science. Results of these studies indicate that students den't posses an adequate concepts or level of understanding of the nature of science and science processes. The new curricula seen to be failed to bring up the students to an acceptable level of understanding of science processes.

The purpose of this study was to examine the understanding of the nature and processes of science, possessed by Jordanian students who almost finished the secondary stage.

The population of this study included the whole students who sat for the examination of the first semester of the

" General Secondary Education Certificate" of the academic year 1977-78 . The sample was randomly selected to represent approximately 10% of the whole population. The participants were selected in accordance with the distribution of students in the different districts and sex.

The first hypothesis in this study states that there are no significant statistical difference between student performance on the moderated POST and a criterion which determine the minimum competence of the students (50 % of the total score) . The second hypothesis states that there are no significant differences between the means of the students' performance on the test, due to sex, school achievement and scientific activities.

The students were divided on the basis of their achievement and activities into 3 levels : high, medium, low . The (t) test was used to identify the difference between the two means for testing the first hypothesis. The analysis of variance ($2 \times 3 \times 3$) factorial design) was used to test the second hypothesis, and the results were analyzed by computer. The Newman Kuels Test was used to compare means of students from different groups of sex, achievement, and scientific activity .

The main results of this study were as follows:

1. The average of the students' performance on the test was 52% of the total score. It was more than the minimum competence criterion , but this results indicates low performance and low level of understanding of science processes.
2. There were significant differences between the students means on the test, due to school achievement and scientific activities, but there were no significant differences due to sex.

3. This study showed the need for research work which aims at investigating the effect of the school achievement in understanding specific science processes and identifying the scientific activity that affect the understanding of science processes .

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