

Abstract

ATTITUDES TOWARDS PRACTICAL WORK AND OBSTACLES OF ITS USE IN EDUCATION AMONG SCIENCE TEACHERS IN GOVERNMENTAL SCHOOLS IN JERUSALEM, JERUSALEM SUBURBS AND RAMALLAH DISTRICTS

By

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This study aimed to investigate 5th – 12th grade science teachers' attitudes in governmental schools in Jerusalem, Jerusalem Suburbs and Ramallah districts towards practical work and its usage in education. Also this study aimed to investigate the extent of practical work usage in teaching science, and the correlation between teachers' attitudes and the implementation of practical work in teaching science. Also this study aimed to explore the obstacles that face and hinder teachers to use practical work in teaching science and achieving its objectives.

To achieve these aims, the study attempted to answer the following questions:

1. What are the 5th – 12th grade science teachers' attitudes in governmental schools in Jerusalem, Jerusalem Suburbs and Ramallah districts towards practical work?
2. Do science teachers' attitudes towards practical work vary according to; gender, qualification, experience, specialization, grades they teach, and the interaction between gender, qualification, experience, specialization, and grades they teach?

3. What are the obstacles that face science teachers in using practical work in teaching science?

4. What kinds of practical work science teachers implement?

5. Is there a correlation between usage of practical work and teachers' attitudes toward it?

6. What are the obstacles that hinder the achievement of practical work objectives?

The population of the study was all 5th – 12th grade science teachers' in governmental schools in Jerusalem, Jerusalem Suburbs and Ramallah districts; it consisted of 528 teachers in 187 schools. The study sample was comprised of 283 teachers.

The researcher used three instruments to answer the questions of the study: Two questionnaires and an interview. To ensure validity, the questionnaires were delivered to nine experts in education, and submitted to the pilot study which consisted of 30 science teachers and factor analysis was done. To ensure the reliability of the instruments, Cronbach Alpha Coefficient was determined and it was 0.89.

Analysis of the aforementioned questionnaires and interviews revealed the following results:

- Attitudes of 5th -12th grade science teachers in governmental schools in Jerusalem, Jerusalem Suburbs and Ramallah districts toward practical work are positive.
- There were no significant differences at level ($\alpha \leq 0.05$) among science teachers in their attitudes towards practical work according to teachers' gender, qualification, experience years in teaching, and the interaction between gender, qualification, experience, specialization, and the grades they teach.

- There were significant differences at level ($\alpha \leq 0.05$) among science teachers in their attitudes towards practical work according to teachers' specialization and grades they teach. Furthermore, those teacher who teach 7th – 9th grades and biology teachers had the maximum positive attitudes toward practical work.
- Many obstacles that face 5th -12th grade science teachers in governmental schools in Jerusalem, Jerusalem Suburbs and Ramallah districts, and hinder their use of practical work in teaching science were identified:

1) Infrastructure-related obstacles:

Shortage of laboratory equipment, lack of computers, and science laboratory.

2) Human-related obstacles:

Obstacles related to: curriculum, students, teachers, system and laws, shortage of time, lack of laboratory manuals and laboratory assistance.

- Results of this study showed that usage of practical work in governmental schools focus on teacher-centered practices.
- There is a moderate relationship between science teachers' attitudes and their implementing practical work.
- The most obstacles that face science teachers and hinder the achievement of practical work objectives were identified as obstacles related to students, and obstacles related to the way practical work is applied.

Based on the study findings it was recommended to: draw the Ministry of Education and Higher Education attention to the necessity of increasing number of lectures for science and decreasing the teachers' load, as well as employing laboratory assistance. Developing curriculum and laboratory manuals. Conduction other studies in the field of using practical work in education including all teachers.