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# Two heads are always better than one: Experiences and attitudes of pre-service science teachers mentoring PBL

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## Abstract

The current research is based on the phenomenological-qualitative paradigm. It examines the significant experiences, attitudes and pedagogical practices of 17 Israeli student teachers in the science-teaching track, regarding the use of small groups as a pedagogical method in the course of their practicum, which was conducted in elementary schools. During the first semester of the practicum, the student teachers were instructed to implement a project-based learning (PBL) process as part of their teaching assignment. During the second semester, the student teachers were instructed to teach the science lessons using any teaching method of their choice.

Data was collected via in-depth interviews, reflective reports, lesson plans and lesson observations, and was analyzed using a qualitative content analysis method. Findings indicate that the quality of student teachers' experiences changed throughout the practicum from anxiety, frustration and difficulty to coping with and overcoming the difficulties, leading to a sense of success and satisfaction. Additionally, it was found that student teachers developed positive attitudes towards pedagogies involving small groups, as a result of their implementing a PBL process earlier in the practicum. Finally, findings indicate that the experience of implementing PBL in the course of the teaching practicum is an important step, which led science student teachers to experience success and satisfaction, develop positive attitudes towards student-centered inquiry-based learning, and to adopt small-group pedagogy in their pedagogical practices.

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**Key words:** attitudes and experiences, PBL, pedagogical practices, science teacher education, small group pedagogies.

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Their individuals' on-going and final reflections indicate that the autonomy and the team work they experienced, increased the sense of involvement and interest of most of students in the learning process and the course subject. Some of them reported about their difficulties to cope with vagueness and uncertainty atmosphere (without clear instructions about what and how to learn), although they understood that such environment gave them a great opportunity to develop themselves as self-determined learners.

**Key words:** active learning, heutagogy, high education, self-formative evaluation.

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## The incubator workshop as a democratic pedagogical model of teacher training

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### Abstract

This paper presents a qualitative research of "the educational social initiatives incubator" – a democratic pedagogic model of teacher training that has been active since the beginning of the 2000s in the democratic program for teacher training at Kibbutzim College. Based on the research, the paper seeks to find out to what extent the incubator, as a pedagogical model of teacher training, reflects the principles of the democratic wave in progressive education. In order to answer this question three mentors who worked on the program and four students were interviewed, and texts about the incubator workshop were read. The conclusions of the study are that the incubator is indeed a model of teacher training that expresses the democratic wave of progressive education.