

BAR- ILAN UNIVERSITY

**Analysis of Mediation Components during Distance Learning
of High School Students
Trained in Small Group (Dyad) Mediation**

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Abstract

Theories on distance teaching and learning (Garrison , 2000; Holmberg, 2007; Moore, 2013; Wedemeyer, 1981) as well as findings of studies by Offir (Offir, 2006; Offir & Lev, 2000; Offir, Lev, Lev, Barth, & Shteinbok, 2003, 2004) and others (Emma, 2006; Garrison, Anderson, & Archer, 2000; Ross, 2013; Rovai, 2002; Weimer, 2013) indicate that distance teaching-learning environments restrict the existence of important pedagogical factors in learning (Allen & Seaman, 2006; Carroll-Barefield, Smith, Prince, & Campbell, 2005). It is necessary to re-design processes, teaching methods as well as the roles of teachers and students in order to overcome the pedagogical limitations of distance teaching and learning environments (Harasim, 1993; Muri-Herzig, 2004; Offir, 2010).

The present study aimed to test a teaching method intended to cope with the pedagogical limitation of the non-presence of a teacher in the classroom in a distance teaching environment, by means of developing a unique model of joint learning in the classroom. According to the proposed model, students who learn in pairs, in a post-secondary school, serve as mediating teachers for each other, based on their acquaintance with the mediated learning approach and its components. The “mediation for distance teaching via learning together” model which is proposed in this study is based on Vygotsky’s (1929, 1962, 1978) Social Theory and on Feuerstein and his colleagues’ Cognitive Modifiability Theory and the Mediated Learning Experience (Feuerstin, Rand & Hoffman, 1979; Feuerstin, Rand, Hoffman & Miller, 1980). This mediation includes five major processes: mediation to intentionality and reciprocity, mediation to meaning, mediation to transcendence, mediation to a feeling of competence and mediation to regulation of behavior. These behaviors were found to be essential in distance teaching and learning environments (Aiello, Cascio, Ficarra, Messina, & Severino, 2011; Garrison, Anderson, & Archer, 2000; Heum, Cho, & Joon Kim, 2013; Hodges, 2005; Wang & Wu, 2008; Zhang, Duan, & Wu, 2001).

The goal of the present study was to test the effectiveness of the mediated learning approach for improving the quality of the teaching-learning process and its connection to the learning achievements of the students. The research questions were: (1) To what extent will the training program help the students in the intervention program to use the mediation components during the learning interaction and to what extent will it improve the effectiveness of the teaching-learning process between them? (2) Does a relation exist between training the students in the mediated learning approach and their learning achievements?

Two research hypotheses were posed for this study:

1. The group of students in the intervention group, who study together and who will receive instruction on mediated learning will exhibit a more effective teaching-learning process compared to students who study together but who will not receive instruction on mediated learning. This hypothesis was divided into two sub-hypotheses:

- a. A higher frequency of mediation components will be found in the learning interaction among students who will receive instruction in the mediated learning approach compared to students who will not receive such instruction.
 - b. Use of all five mediation components at different levels will be found among students in the intervention group who will receive instruction on the mediated learning approach. However, a different composition of use of the mediation components will be found among students in the comparison group who will not receive such instruction.
2. Higher learning achievements will be found among students who learn together and who will receive instruction for mediated teaching, compared to students who learn together but will not receive such instruction.

The participants included 26 students (boys) who study in four classes (two ninth grades and two tenth grades) in a post-primary six-year national religious school in the center of Israel. The participants were divided into two groups who studied by distance teaching: an intervention group and a comparison group. Each group included ninth and tenth graders. The students were divided randomly into pairs who learn together. The intervention group received a training program in the mediated learning approach, and the comparison group did not receive any training.

The training program for imparting the mediated learning approach to the students studying in pairs took place in two stages: A. Impartation of the principles of the mediated learning approach and its components; B. Practicing the skills in order to implement the mediation components in the interaction.

The research was performed using qualitative and quantitative research instruments: 1. Semi-structured interview; 2. Video recordings; 3. MSLQ motivation questionnaire; 4. Achievements test in the distance teaching course; 5. Learning achievements in humanistic and scientific subjects at the beginning of the second semester and at the end of the school year.

The research variables were: **Independent variables** – research groups: A. Participants who received instruction in the mediated learning approach; B. Participants who did not receive instruction in the mediated learning approach. **Dependent variables** – 1. The mediation components: focusing (intentionality and reciprocity), meaning, transcendence, feeling of competence and regulation of behavior (Klein & Sobelman, 2010). 2. Achievements in the distance teaching course. 3. Learning achievements in humanistic and scientific subjects at the beginning of the second semester and at the end of the school year. **Controlled variables** – motivation according to the four measures of the MSLQ test (internal motivation, external motivation, importance of the task, self-efficacy).

The findings indicated a significant difference in the frequency of the appearance of some of the mediation components according to research groups. It was also found that students who studied in pairs and who

received instruction for mediated learning had higher learning achievement compared to students who learned in pairs but did not receive such instruction.

The research findings will add knowledge to the Cognitive Modifiability Theory and to the Mediated Learning Experience and to existing knowledge in the field of joint learning that takes place in small groups in distance teaching environments.

The contribution of the research may be in the development of a tool for mediated learning in pairs for joint teaching-learning in distance teaching environments, that include the principles of mediated learning and whose goal is to improve the efficiency of learning and the cognitive development of the learners. The mediation principles may help overcome the difficulties involved in distance teaching-learning environments by joint learning that takes place in pairs: the learner and the teacher, who exchange roles during the course of the learning interaction and implement the use of the mediation components during their interaction with the other. Use of these components during the interaction has been proven to support emotional and cognitive development and as helping learners to reach higher learning achievements and improve their ability to learn more effectively under different learning situations in the future.