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THE CONTRIBUTION OF THE PRE-MILITARY EDUCATION ACTIVITY TO THE LEARNERS

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Abstract

The technological constellation is a critical system both in its importance and in its size and constitutes a significant part in the competence and power of the Israel Defense Force (IDF).

The IDF as a modern and advanced military establishes its power on advanced technologies that require personnel with education and technological skills and motivation to serve in this system and in large numbers. In the past two decades, there has been a decline in the scope of the learners in technological education who are recruited to the IDF. The graduates of technological education who enlist in the IDF constitute a critical infrastructure for the operation and maintenance of the combat systems of the IDF and constitute the professional basis in the regular military service and in the reserves.

As a result of the increasing need for technological personnel, the IDF holds extensive pre-military activity so as to identify technological personnel. The pre-military activity is a unique model combining between the Ministry of Defense and the Ministry of Education, in the framework of which the individual is accompanied and empowered. This activity includes structured military support in the framework of the school curriculum by the Israel Defense Force.

The article will present the contribution of the pre-military activity conducted by the IDF, including its influence in the different dimensions. In the framework of the article, initial quantitative data will be presented, reflecting the contribution of the pre-military activity to the learners in this activity.

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1. Introduction

The development of technology and its spread to different areas does not pass over the militaries of the world, with emphasis on their technological systems. The constant and continuous changes that characterize our current era enable the entry of advanced weaponry to the battlefield. The militaries of the world, as a result of the introduction of advanced and complex weaponry, are required to have an advanced technological system that will support these changes and will provide a technological response to the different weaponry (Behavioral Sciences Division: Research Department, 2014).

Social and internal processes in Israeli society place before the IDF many challenges in the staffing of personnel, as a result of the not insignificant scope of the different populations that do not enlist in the IDF on the one hand (Ultra-Orthodox Jews, minorities) and as a result of the shortening of the duration of mandatory military service on the other hand. This reality greatly influences the technological constellation in the IDF, which is defined as a strategic constellation that copes in addition with low motivation to serve in it (Tsadok, 2009; Yanko, 2013).

The IDF, in order to cope with this personnel challenge, implements pre-military education programs together with the different government ministries, with the goal to increase the number of learners in technological education and to increase the motivation to serve in the technological system in the IDF (IDF Website, 2017).

1.1. Theoretical Background

The State of Israel, from its establishment, has coped with many security challenges in different areas (near and far) and of changing levels of strength. These challenges require the IDF to preserve military superiority while preserving constant preparedness in light of the challenges and the changes with which the State of Israel copes in the different spaces (interior, abroad, borders, cyber).

According to different research studies, the State of Israel in the contexts of the military and national security suffers from numerical inferiority, in terms of both the quantity of weaponry and the size of the military, in comparison with most of the Arab militaries (Yanko, 2013). The advanced technology that the IDF deploys constitutes a significant power duplicator and almost completely reduces the advantage of its enemies and even places the State of Israel according to different research works in the fourteenth place in the ranking of the armies of the world (Credit Suisse, 2015).

The technological constellation in the IDF is a significant system that is important in the ability of the IDF to maintain technological superiority in light of the environmental challenges with which the State of Israel copes. This constellation, which is composed of elite technologies alongside traditional technologies (low tech), is characterized by moderate to low attractiveness in the eyes of the conscript relative to the other alternatives offered to him (Behavioral Sciences Division: Research Department, 2014).

The staffing of this constellation as a result of its size and importance constitutes a significant challenge to the different manpower factors, because of the need for a previous technological background that constitutes a basic infrastructure for the military engagements.

The growth and expansion of technology to the militaries of the world, including the Israel Defense Force, empowers the challenge in the staffing of suitable personnel, as a result of the need for a larger

number of personnel who will support the new technological challenges and in addition broader and earlier education in the different worlds of technology (electricity, electronics, machines, etc.).

Post-high school education in Israel enables young people who learn in it a scholastic range that includes technological trends on the one hand and academic studies on the other hand. In the year 2016 a total of 2,185,000 students studied in the State of Israel. Of them, 152,800 students studied in the vocational technological track, in different learning programs in broad national dispersion (Knesset Website, 2017).

Technological education that constitutes a basis for the workers of the technological system in the IDF has been found in a decline in the past decades, thus exacerbating the challenges of staffing of personnel in the technological system in the IDF. This challenge is exacerbated because of the significant increase in the scope of the Ultra-Orthodox population, a large part of which does not shoulder the burden as a result of the different belief-based processes

Like the Ultra-Orthodox population, the population of minorities in Israel (with the exception of Druse and Circassian groups) is not obligated by the mandatory enlistment by law. The decisive majority is not integrated into the ranks of the IDF, as a result of the different ideological processes (Paltiel, Sepulchre, Kornilenko, & Maldonado, 2012).

Technological education in Israel that constitutes a significant basis of the workers in the technological system in the IDF has been found in a decline in recent years. The IDF copes with a challenging technological equation that is intensified in actuality by the reduction of the number of conscripts on the one hand and the rise in the technological complexity on the other hand.

To cope with these significant challenges, the IDF holds along with the government ministries and educational networks pre-military educational platforms that turn to the youths of high school age and enable technological studies in different models of accompaniment, support, and empowerment (ORT Israel Website, 2017). Models of this type significantly increased and constitute a quantitative and qualitative source that bridges the gaps in personnel and motivation for the different technological systems. This activity is held in dozens of different schools for thousands of students around the country in diverse models and at different intensities (Tsadok, 2009; Yanko, 2013).

In the framework of the activity, the students are exposed to activity of empowerment both on the personal level and on the group level as a part of the gradual process, at the end of which these students will enlist into the IDF when they are more educated and with a higher motivation to serve.

One of the programs that the IDF operates is the technological education support program, in the framework of which the students are accompanied from the ninth grade until the twelfth grade. In the framework of this support, the students wear uniforms, are in a technological program of studies, and are empowered through excursions, structured lessons, empowerment days, cohesion days, reinforcement days, support military staff, mentor officers, and so on (Ministry of Education Website, 2017).

These pre-military education programs that the IDF operates seek to increase the number of learners in technological education through the creation of a satisfactory knowledge infrastructure and the increase of the motivation to undertake meaningful technological service in the IDF. The studies in programs of this type enable accompaniment and learning support by the military staff and in addition empowerment, identity, and heritage, which are translated into cohesion around the military service on the one hand and around the service in the technological system on the other hand.

One of the main points emphasized in this type of program of accompaniment is the empowerment of the learner, from the desire and need to empower him towards the challenges in the military service and in general.

The cognitive social learning theory focuses on the concept of self-efficacy, which reflects the individual's belief in his ability to successfully perform actions that require the achievement of the desired outcomes (Bandura, 1977, 1986). Self-efficacy touches upon the individual's belief in his ability to perform certain behaviors and not on his objective abilities in actuality.

A high perception of self-efficacy enables the individual to cope with complex challenges and to invest efforts and be determined and consistent, through the adoption of specific actions that will enable the achievement of the expected result (Bandura, 1982, 1997). The individual's perception of self-efficacy also determines whether the individual will want to perform a behavioral change and what will be the level of perseverance of this change facing the difficulties (Bandura, 1977).

There are four sources of information that influence the sense of self-efficacy, including personal experience, learning through others, verbal persuasion, and physiological and emotional arousal. These sources of information constitute a significant part of the structure of the program that the IDF holds, whether in the framework of the personal experience in the leadership of tasks, including the individual's feelings as a result of his successes, through learning from peers or subordinates, etc

2. Problem Statement

The contribution of the pre-military program to the students participating in it is expressed in different areas, ranging from the motivation, through the scholastic influence, to the personal empowerment. As a result of the need to reduce the scope, this article will focus on the contribution of the program in the aspects of self-efficacy and learning achievements relative to the students who do not participate in the pre-military education program.

3. Research Questions

The research hypothesis assumed that the level of self-efficacy, academic efficacy, emotional efficacy, and social efficacy and level of achievement of the students of the pre-military education program will be higher than that of the students of the regular technological program.

4. Purpose of the Study

To examine the research question, the quantitative research approach was chosen. The quantitative research basically asserts that the best way to understand phenomenon is through a broad sample that is numerically measurable, through which it is possible to understand the research picture and to produce laws and rules (Birenboim, 1993).

5. Research Methods

5.1. Research Population

The research participants are students in a school in the north of the country in grades 10 to 14. The first group includes students who participate in the pre-military education program. The second group includes students who do not participate in the pre-military education program.

The number of students in every group is identical. There are 100 students (N=100) in grades 10 to 14, who study in the pre-military education program. There are 100 students (N=100) in grades 10 to 14, who do not study in the pre-military education program.

5.2. Research Instruments

This research study used different questionnaires, in the framework of which the students' attitudes were examined in the different dimensions of efficacy (self, social, emotional, and academic). The questionnaires used are:

1. Self-Efficacy Questionnaire for Children (SEQ-C), Muris (2001)
2. General Self-Efficacy Scale, Chen and Gully (1997)

The students' achievements were measured in three main subjects (English, mathematics, and a leading technological subject).

6. Findings

The chapter of the research findings will be divided into two main parts. The first part will present the findings as they were expressed in the quantitative analysis in the different aspects of efficacy relative to the two research groups (regular, pre-military). The second part, like the first part, will present the students' achievements as they are expressed in relation to the two research groups.

Table Number 01: t-Test for the Comparison of Means between Independent   Samples regarding Self-Efficacy according to the Research Group

Table 01. t-Test for the Comparison of Means between Independent. Samples regarding Self-Efficacy according to the Research Group

	Group				
	Regular Technological Program		**Pre-Military Education Program**		t
	Mean	SD	Mean	SD	
Academic self-efficacy	3.32	0.56	4.42	0.41	15.954**
Social self-efficacy	3.69	0.63	4.57	0.40	11.960**
Emotional self-efficacy	3.36	0.61	4.41	0.47	13.749**
Self-efficacy	3.55	0.55	4.69	0.32	17.939**

p<.05, * p<.01 **

Analysis of the findings indicates that the level of general self-efficacy among the students who participate in the pre-military education program (M=4.69) is significantly higher (t(159)=17.939, p<.01)

than that of students in the regular program (M=3.55). The level of academic self-efficacy among the students in the pre-military education program (M=4.42) is significantly higher (t(198)=15.954, p<.01) than that of the students in the regular program (M=3.32). In addition, the social self-efficacy among the students in the pre-military education program (M=4.57) is significantly higher (t(168)=11.960, p<.01) than that of the students in the regular program (M=3.69). The emotional self-efficacy among the students in the pre-military education program (M=4.41) is significantly higher (t(198)=13.749, p<.01) than that of the students in the regular program (M=3.36).

Table 02. Students' Achievements according to the Research Group

	Group				
	Regular Technological Program		**Pre-Military Education Program**		**T**
	Mean	SD	Mean	SD	
English	82.1	(10.5)	85.2	(9.4)	2.181*
Mathematics	80.6	(12.2)	85.3	(10.6)	2.887**
Leading Technological Subject	81.8	(10.7)	86.0	(9.4)	2.945**

p<.05, * p<.01 **

Analysis of the achievements of the students in the different research groups indicated significant differences. The mean of the scores of the students who participate in the pre-military education program was higher significantly in all three of the research subjects examined (English, mathematics, leading technological subject).

It is possible to see that in the subject of English (M=85.2) the mean of the scores of the students who participate in the pre-military education program was higher significantly (t(198)=2.181, p<.05) than that of the students of the regular program (M=82.1). Similarly, it is possible to see that in mathematics the mean of the scores of the students who participate in the pre-military education program (M=85.3) was higher significantly (t(198)=2.887, p<.01) than that of the students who participate in the regular program (M=80.6) and the mean of the scores of students who participate in the pre-military program in the technological subjects (M=86.0) was higher significantly (t(198)=2.945, p<.01) than that of students in the regular program (M=81.8).

7. Conclusion

This research study examines the influence of the pre-military education program on the students who are participating in it in the dimensions of self-efficacy, academic efficacy, emotional efficacy, and social efficacy and on the students' achievements in three main subjects (English, mathematics, leading technological subject).

The research hypothesis assumed that the level of self-efficacy, academic efficacy, emotional efficacy, and social efficacy as well as the achievements of the students in the pre-military education

program will be higher than those of the students in the regular technological program. The research findings showed that the research hypothesis was confirmed.

Through the instruments of analysis, it was found that the mean of the scores of the students who participate in the pre-military education program will be significantly higher in all three of the subjects examined (English, mathematics, leading technological subject) than that of the students who do not participate in the pre-military education program.

These significant differences in the scholastic achievements between the two groups were found in the dimensions of efficacy in the different areas. Analysis of the findings indicates that the level of general self-efficacy, academic efficacy, social efficacy, and emotional efficacy respectively among the students who participate in the pre-military education program is significantly higher than that of the students in the regular program.

Analysis of the research findings shows a significant difference between similar populations, when the main difference between them is the participation in the pre-military education program. It is possible to explain the findings by connecting them to the research literature. It is possible to see that the pre-military education program places the main emphasis on the empowerment of the individual, including the cultivation of a high sense of self-efficacy.

Bandura (1977) maintained that the person with high self-efficacy is characterized by great persistence when facing the goals he set for himself, while the person with low self-efficacy will invest in the task when he understands that it suits his abilities. In a situation when the task is perceived as impossible, he will stop putting forth effort.

The development of the individual's sense of self-efficacy derives from the understanding that to succeed in the complexity of life, including the military service, the person needs to correctly evaluate his abilities, including his ability to evaluate the influence of different events and his ability to use opportunities he encounters. This assessment constantly influences the individual's behavior at any given time (Bandura, 1977).

In addition, it is possible to see that in the academic educational dimensions there is a correspondence between the research findings and the research literature. Zimmerman defined the term academic self-efficacy as "the degree of the student's belief that he has the ability to organize and perform behaviors and actions required to achieve educational and academic performances he desires" (Zimmerman, 1995, p. 203).

Different research studies indicated the contribution of the self-efficacy among students in the aspects of academic performance and the increase of the scholastic achievements (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Pintrich & DeGroot, 1990; Schunk, 1994; Sharma & Silbereisen, 2007; Zimmerman & Bandura, 1994). It can be seen that the pre-military education program, with its components and characteristics, enables the empowerment of the individual in different dimensions in relation to students who do not participate in it, both in the academic dimensions and in the different dimensions of self-efficacy

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