The Quarterly Journal of New thoughts on Education

Faculty of Education and Psychology
Vol.19, No.3, Ser. 69, Autumn 2023, p. 1-5
Journal homepage: https://jontoe.alzahra.ac.ir/

10.22051/JONTOE.2022.39260.3512 20.1001.1.1735448.1402.19.3.3.7

Research Paper

The effect of technology-based entrepreneurship education on empowering the entrepreneurial spirit of elementary students (Case study: sixth graders)

Fatemeh Rahnamaee Zonouz [1*], Farnoosh Aalami[2], Mahmood Abolghasemi [3]

1. Master of Educational Management, Department of Educational Sciences, Faculty of Educational Sciences and Psychology, Shahid Beheshti University, Tehran, Iran
2. Corresponding Author: Assistant Professor of Educational Management, Department of Educational Sciences, Faculty of Educational Sciences and Psychology, Shahid Beheshti University, Tehran, Iran
3. Associate Professor of Educational Management, Department of Educational Sciences, Faculty of Educational Sciences and Psychology, Shahid Beheshti University, Tehran, Iran

Received: 2022-02-13 **Accepted: 2022-06-24**

Abstract

Aim: This study aimed to investigate the effect of technology-based entrepreneurship education on empowering the entrepreneurial spirit of sixth graders. The applied research and quasi-experimental methods were used with an experimental and a control group. The statistical population included sixty 12-year-old sixth graders in the city of Karaj. A sixth-grade work and technology lesson plan was presented for one month as the research tool. The standard Bahramzadeh et al. Entrepreneurship Spirit Questionnaire (2009) was used as a measurement tool. Content analysis was performed to determine content validity, and Cronbach's alpha coefficient was used to determine reliability. Data were analyzed using descriptive and inferential analyses in SPSS software. The findings show that technology-based entrepreneurship education has a positive and significant effect on the entrepreneurial spirit of sixth graders.

Keywords*: Entrepreneurship education, Sixth graders, Work and technology, Entrepreneurial spirit*

Introduction

Recent years have witnessed a range of obstacles in the business sector in Iran, which created new challenges for the national economy. Crossing this hurdle requires the adoption of new approaches and innovative methods. Entrepreneurship and entrepreneurs have a defining role in this situation. Hence, economists have defined entrepreneurship as the economic growth engine. Entrepreneurship is the main driving force behind creativity, innovation, participation, and risk-taking. Entrepreneurship is one of the least costly tools yielding the best results and maximum efficiency for the economic development of society. It is therefore particularly important to provide the required social context for this purpose. In today's everchanging world, a successful society is one that establishes a significant relationship between scarce resources and managerial capabilities through its entrepreneurial human resource strategy (Toghraei et al., 2019).

The importance of entrepreneurship in the economic growth and development of countries is confirmed as an inevitable fact which needs to be addressed by the education system. In a world where the scale of change has been transformed from century to seconds, the most important principle for organizations is development and survival. Our schools must foster brave students who rely on their own efforts and inner strengths without being afraid of failure and use this as a bridge to success (Arthur & Hisrich).

Entrepreneurship is a mindset and insight. The aim of teaching entrepreneurship to children in elementary school is not to create a new instrument or start a business. Rather, it aims to remove any barriers which may reduce the motivational potentials of entrepreneurs. Hence, the aim of the present study was to investigate the effect of technology-based entrepreneurship education on empowering the entrepreneurial spirit of sixth graders.

Methodology

This experimental research recruited students from the statistical population of 12-year-old sixth graders studying in the city of Karaj in 2021. Convenience sampling was used to select 60 individuals who were divided into an experimental and a control group of 30 each. Next, the entrepreneurial spirit variable was measured in both groups as a pre-test using the standard Bahramzadeh et al. Entrepreneurship Spirit Questionnaire (2009). Then, the experimental group underwent entrepreneurship training online for one month (two sessions of 40 minutes per week). The control group had no training program during this period. After completing the virtual entrepreneurship training, the Entrepreneurship Spirit Questionnaire was distributed again in both the experimental and control groups and the

variable was re-evaluated. The effect of technology-based entrepreneurship education on empowering the entrepreneurial spirit of sixth graders was then examined by studying the different answers given.

Data were collected using the standard Bahramzadeh et al. Entrepreneurship Spirit Questionnaire (2009). This questionnaire includes six domains of creativity, motivation for progress, self-esteem, monitoring source, risk-taking, and foresight.

In this research, a technology-based protocol was used, which is an adaptation of global entrepreneurship packages, lesson plans, and sixth grade work and technology lessons. It is noteworthy that the protocol was taught on shad.ir.

Results

Table 1. shows the descriptive statistics for the variable of entrepreneurial spirit of sixth graders

Variable	Group	Mean	Pre-test	Post-test	Standard deviation
			Standard deviation	Mean	
Creativity	Experimental	13.53	4.02	18.11	2.14
	Control	14.77	2.97	11.97	3.83
Motivation for progress	Experimental	13.6	3.83	20.17	3.74
	Control	14.33	3.08	13.6	3.65
Self-esteem	Experimental	13.5	3.7	19.43	3.46
	Control	14.73	2.57	13.93	3.58
Monitoring source	Experimental	12.7	3.32	18.3	2.31
	Control	13.47	2.37	12.3	2.9
Risk-taking	Experimental	13.77	3.92	20.53	3.04
	Control	14.93	3.25	13.6	3.76
Foresight	Experimental	13.4	2.2	20.7	2.49
	Control	13.47	3.27	12.6	3.31
Entrepreneurial spirit	Experimental	80.5	20.51	11.27	15.14
	Control	85.7	14.3	80	18.41

Based on the descriptive findings in Table 3, the mean scores for the experimental and control groups were not significantly different at pre-test. Meanwhile, post-test revealed a significant change in the mean score for experimental group, which persisted through the follow-up.

Shapiro-Wilk test revealed the obtained values for the tests in one group were not significant at 0.05, therefore, the intra-group variances were equal and data were normally distributed. Levene's test was used to evaluate the homogeneity of intra-group variances.

The homogeneity of covariances of pre-test scores in the two groups was investigated using Levene's test. Given that the value of F in Levene's test was not significant at $\alpha = 0.05$, the assumption of homogeneity of data covariance and regression slope is established.
Since the value of F calculated in group interaction and pre-test was not significant at 0.05 (P>0 0.05), the data support the hypothesis of homogeneity of regression slopes. The hypothesis is confirmed and the analysis of covariance (ANCOVA) can be performed.
Based on the findings of inferential statistics (ANCOVA for each component), technology-based entrepreneurship education significantly affected empowering the entrepreneurial spirit of sixth graders.

Discussion and conclusion

Considering the overall findings of the research, technology-based entrepreneurship education in elementary school not only familiarizes children with the basic concepts of entrepreneurship at an early age, it also has a positive effect on their creativity, motivation for progress, self-esteem, monitoring source, risk-taking, and foresight. Since these concepts play an important part in the success of individuals involved in entrepreneurship, they can form the initial structure of the entrepreneurial spirit in children.
It is suggested that entrepreneurship be a part of students' lifestyle and that the school curriculum play a creative and organizing role. The content must be relevant to practical work and real life, and set the stage for future experiences and practical learning.
It must be noted that this study had some limitations. For instance, the protocol lasted only one month. Other limitations include failure to run random sampling, financial problems, and the unwillingness of some students.

Reference

Arthur, S. J., & Hisrich, R. D. (2011). Entrepreneurship through the ages: Lessons learned. *Journal of Enterprising Culture*, 19(01), 1-40. https://doi.org/10.1142/S0218495811000696

Salimi., J., (2014). Technical and Vocational Education, Manpower and Entrepreneurship A Case Study of Technical and Vocational Education in Kurdistan Province. *Skills Training*, 2 (8), 7-24. (Text in Persian)

Styri., A (2010). *The necessity of laying the foundation for entrepreneurship education in elementary school and explaining the elements of its curriculum*, Master Thesis in Educational Management, Al-Zahra University. (Text in Persian)

Yaqubi Najafabadi, A., (2010). Necessity of entrepreneurship education in all educational levels. *School Counselor Growth*, Summer, 5 (4), 28 - 32. (Text in Persian)