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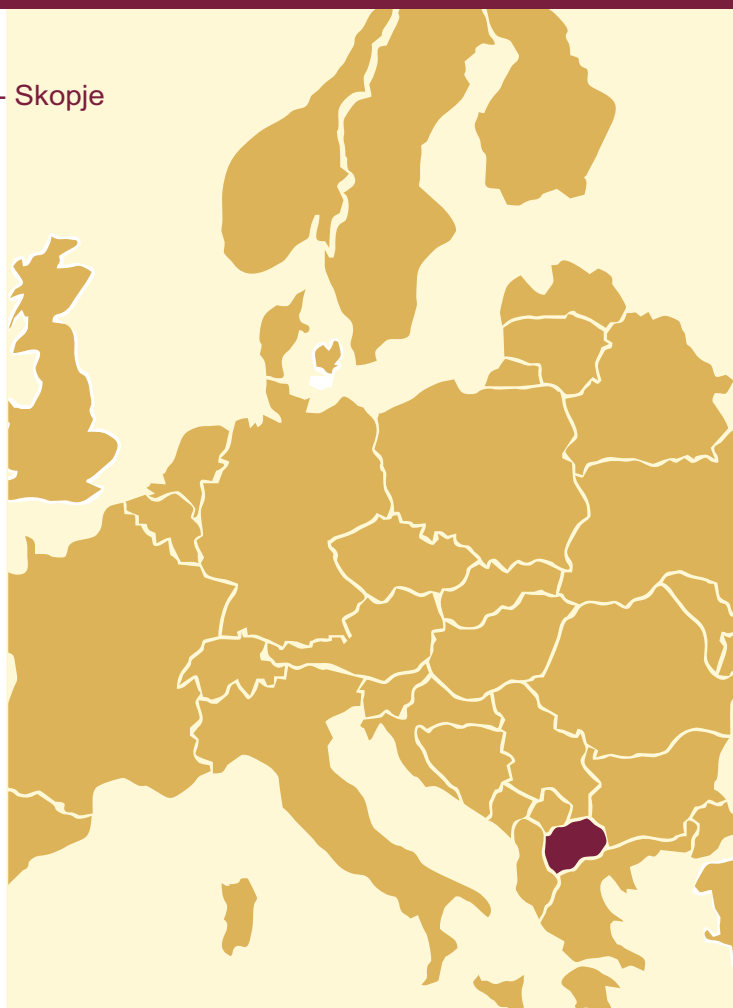

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Skopje, June, 2018

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Original scientific paper

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IMPLICATIONS OF THE EDUCATIONAL SYSTEM ON THE DEVELOPMENT OF ENTERPRENUERSHIP AND THE INNOVATION OF ENTERPRISES IN THE REPUBLIC OF MACEDONIA

Abstract

Given the fact that the educational process is the one that is mostly credited for generating attitudes, experiences and ways of thinking among individuals, the subject of research of this paper is the connection of education with the development of entrepreneurship and greater innovation of enterprises in the Republic of Macedonia. The research involves a survey of representatives from thirty innovative companies in order to determine whether there is a reflection of the acquired skills, as a consequence of the educational process, on the work in enterprises and the innovative results. More precisely, whether the popular teaching methods to develop creative characteristics in people were present during their education and how much do they reflect today on their work. The results of the research will serve in determining the conditions on this issue in the Republic of Macedonia, and will contribute to the creation of appropriate recommendations for future development, necessary reforms and encouraging entrepreneurship.

Key words: entrepreneurship, entrepreneurial education, innovation
JEL Classification: O, O3, O31, I, I2, I25

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Introduction

Creating innovations is an act through which wealth is created from existing resources. So, it can freely be said that innovation, essentially, implies recognizing the resources and their transformation. The existence of resources in nature in itself does not mean anything until they are recognized and used, that is, until they receive economic value. However, what is important is that innovations do not happen by themselves. Their creation requires entrepreneurial spirit.[1]

At the same time, the process of creativity is defined as a mental process in which the acquired experiences are combined and recombined in a way that creates new model and configurations that can significantly help to better meet human needs.[2]

The perceived process of creativity and innovation, leads us to the conclusion that it is closely related to the human mental structure, acquired experience, thinking ability and so on. Hence, the connection between entrepreneurship and the process of education is obvious. We know that the educational process is the one that, for the most part, is credited for generating attitudes, experiences and ways of thinking among individuals. That is why it is important for societies to have developed an adequate system of education, that will deliver desired results in the field of entrepreneurship.

1. ENTREPRENEURIAL PREREQUISITES IN EDUCATIONAL SYSTEM

The process of people's awareness takes place through a series of mental processes that include gathering information, sorting and storing them, reshaping and using them in trying to solve a particular problem, or to make a particular decision. Because of this, the emergence of new ideas is not considered as a random process, but rather as a logical consequence of cognitive processes, that is, the proper use of acquired knowledge and experience.

It should not be forgotten that some people are more creative than others; also some at some point can manage to recognize the possibility of a new business, while others do not.

Such diversity is a consequence of the differences in the experience of

[1] Drucker, P., (1985) *Innovation and Entrepreneurship*, Elsevier Ltd., p. 13.

[2] Thierauf, R.J., (2001) *Effective business intelligence systems*, Greenwood Publishing Group, p. 41.

each individual, as well as the type of information and knowledge available to them. However, the most important one is the way they interpret and process them.[3]

The most basic cognitive system, which is the base of all acquired information, is called memory. In everyday functioning, a person resorts to the creation of mental frames through which he understands the new information and groups them in groups of kinship. The most common mental frames that are being created are schemes (cognitive frameworks of knowledge and our representation about specific aspects of the world) and prototypes (abstracts and idealized representations that give the essence of the category subject). It's exactly the schemes and prototypes that can ease or impede the process of creating something new. [4]

In the whole process, the limited ability of a person to constantly retrieve the stored knowledge, as well as constrains that exist in the number of information that can suddenly be embarked and processed should not be omitted. To make it easier for a person to deal with this congenital handicap and to get to the necessary information in the moment that is needed while sorting the knowledge, he resorts to sorting them into categories of closeness. This categorization, besides helping, also has its negative impact, because it limits human thinking and creates the so-called mental trenches. In this way, a person often does not perceive the possibilities because of this sorting. The sorting hinders at first glance to connect the things that by closeness are categorized differently. [5]

In this context are the two key concepts that significantly influence the development of the creativity of the individual: creative barriers and creative attitudes.

The creative barriers are acquired through learning, they hinder creative thinking, and also negatively affect the process of accepting and implementing negative ideas. They can be of an internal, or external nature. Unlike them the creative attitudes are closely related to the individual's creative potential. [6] Among the most notable categories of creative barriers are[7]:

- learning and acquired habits,

[3] Барон, Р.А., Шејн, **С.А**., (2011), *Претприемништво: процес со перспектива*, Мелиса С. Акуна, стр. 56.
[4] Ibid, p. 58.
[5] Ibid, p. 63.
[6] Runco, M.A, Pritzker, S.R., (1999) *Encyclopedia of Creativity, Volume 1*, Academic Press, p. 165.
[7] Ibid, p. 166.

- rules and traditions,
- perceptual barriers,
- cultural and
- emotional barriers.

Unlike creative barriers, creative attitudes reflect the creative person. Creativity is deeply rooted in the person and its attitudes, and it is generally perceived as a way of living, thinking and perception of the environment.

The educational process is the one who shapes the person, participates in building his attitudes, generating knowledge, and mostly on the skills and the way of thinking. That is why the system must overcome all those moments that contribute to the creation of barriers in thinking.

2. CHARACTERISTICS OF ENTREPRENEURIAL EDUCATION

If we take into account the factors that determine creativity and the process of gaining knowledge, the questions will inevitably be asked: Can entrepreneurship be learned? What can be done within education?, What is the most suitable way of teaching?

The answer to these questions can be easily obtained if they penetrate into the essence of both concepts: learning and teaching. [8]

The traditional educational process is based on distribution of knowledge among the students through tutoring/teaching by teachers.[9]This process starts from the assumption that the recognition of business opportunities later in life is closely correlated with the accumulated knowledge during the educational process. However, the traditional educational process is based on transfer of knowledge, but it neglects the student's personal development. The tutoring/teaching approach considers the teacher's figure as a pillar and it is aimed at developing appropriate methods through which the teacher in the most successful manner conveys the knowledge and skills to the students and will enable them to be theoretically mastered and practically applied by the students, which in the whole process are treated as passive subjects.

Unlike this, the learning/awareness approach puts its students at the centre of the whole process and considers their active participation in the pro-

[8] Fayolle, A., Klandt, H., (2006), *International Entrepreneurship Education:Issues and Newness*, Edward Elgar Publishing Limited, p. 28.
[9] Ibid, p. 28-29.

cess of searching for knowledge and awareness novelties.[10] This concept raises the role of the student on an equal level with the teacher, whose role is only to guide. This way besides gaining new theoretical knowledge, students also experience personal development, acquire new skills, develop the intelligence and even during the educational process they learn how to see the possibilities. At first, these are opportunities that offer a solution to a problem, a task, but latter they grow into the ability to perceive business opportunities.

It is obvious that what is needed for the developments of persons- entrepreneurs is precisely the application of the learning approach in the educational process. When the individuals from early years develop a mindset maximally freed from mental barriers (patterns, prototypes, mental trenches, etc.) creativity and the entrepreneurial spirit would only be a natural consequence of what is created.[11]

In creating entrepreneurial education, the presence of theoretical content in the field of entrepreneurship and economy is also necessary.

The entrepreneurial education should be focused on detaching the barriers that undermine self-esteem and self-respect among young people. The entrepreneur is a researcher with adventurous spirit, he is a risk-taker, and therefore educational programs should stimulate the adventurous spirit of the individual and his willingness to take the risk.

The recommendations on what should be included in the program of the entrepreneurial education depending on the level are as follows: [12]

- **Educational programs for an academic level** is needed to include specific content of entrepreneurship. Theory should be minimized and more practical education is needed for direct introduction to entrepreneurship through case studies, games and simulations, creating business plans, as well as implementation of practice by students in already established companies.
- **Secondary education** should have compulsory content from the economy and entrepreneurship. Adolescents should be able to make decisions, to choose the right alternative and to learn to accept the consequences of the decision. Also, young people need to acquire basic knowledge about the functioning of the market economy and getting acquainted with the necessary prerequisites for entrepreneurship, acquiring skills for innova-

[10] Ibid, p. 28-29.

[11] Ibid, p. 28-29.

[12] Kent**, C.A**. (1990), *Entrepreneurship Education: Current Developments, Future Directions*, Greenwood Publishing Group, Inc., p. 14 – 19.

tion, self-confidence, accepting responsibility for their own actions, etc.

- **Primary education** should be focused on building entrepreneurial attitudes and student characteristics from an early age. The entrepreneurial programs should develop student's characteristics distinctive for entrepreneurs, such as: persistence, focus on goals, maintaining motivation, etc.

In general, such recommendations point to a general impression that theoretical knowledge of economics and entrepreneurship is necessary, but not sufficient. Crucial to the development of entrepreneurial personalities are the characteristics of the person who should be indirectly developed during the educational process.

3. THE EDUCATIONAL SYSTEM'S IMPACT ON THE INNOVATIVE RESULTS OF ENTERPRISES IN THE REPUBLIC OF MACEDONIA – results of the conducted research

Recognizing the importance of an educational system on the economic development of the country, especially on the creation of individuals that will have appropriate entrepreneurial characteristics, it opens the need to explore the situation on this issue in the Republic of Macedonia.

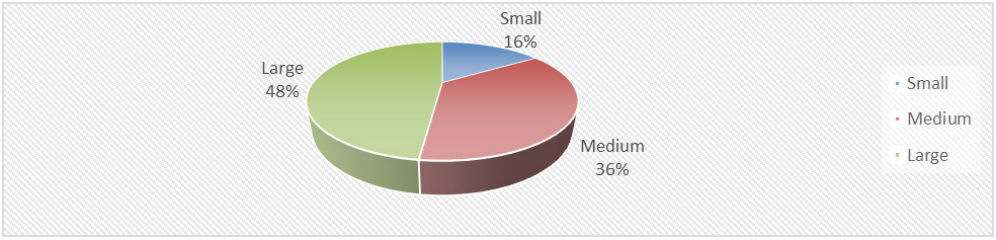
The research was conducted through a survey on representatives from thirty innovative companies. The main objective was to determine whether there is a reflection of the skills acquired as a consequence of the educational process on the work in the enterprise and the innovative results. More precisely, were the popular methods in teaching of the development of creative characteristics in people were represented during their education and how much they have a reflection today on their functioning in the workplace.

Regarding the structure of the selected sample on which the survey was conducted, we will focus on several characteristics: the size of enterprises, the innovation in their operations and the type of activity in which they operate and the competition they face.

In addition we will continue to ***analyse the sample of the survey.*** Graphs number 1,2,3 and 4 show the characteristics of the surveyed sample in terms of size, type of activity, competition in the branch in which the surveyed enterprises operate, their perception of innovation in business.

Graph1 shows that the small enterprises (up to 50 employees) have the smallest share in the analysed sample, while the largest enterprises with over 250 employees have the largest share. No microenterprises were included in the survey.

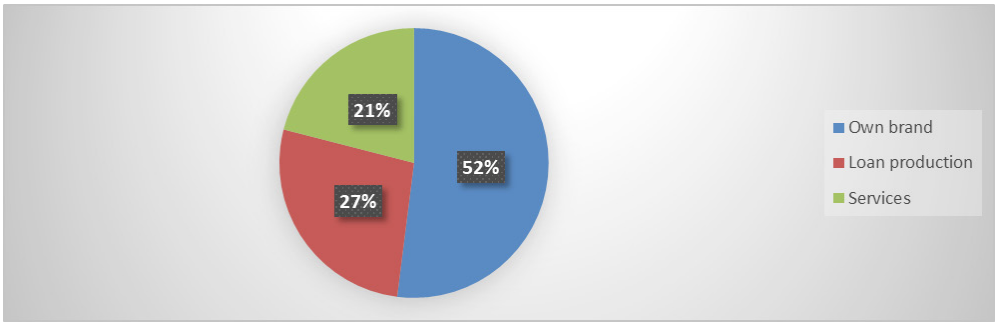
Graph 1: *Size of surveyed enterprises*



Source: Own research

Graph 2 shows that in the analysed sample the smallest share are the enterprises in the services sector, and the enterprises that are dealing with production, primarily those with their own developed brand dominate.

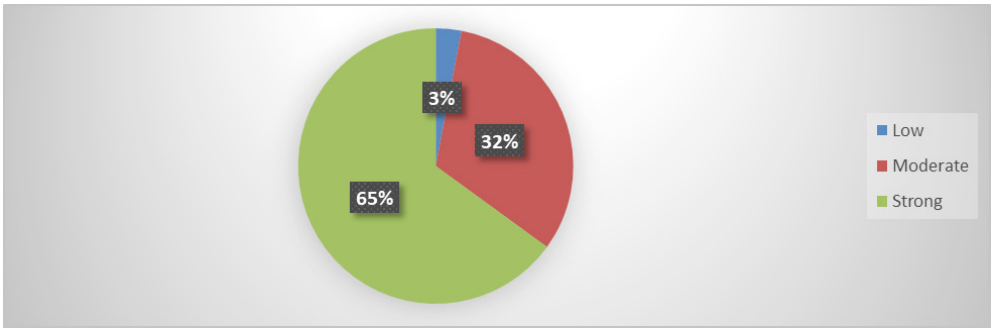
Graph 2: *Type of work of the surveyed enterprises*



Source: Own research

Graph 3 indicated that 65% of surveyed enterprises said that they operate in conditions of strong competition, which speaks in favour of the representativity of the selected sample, given that the purpose of the survey is to observe innovations as a factor for ensuring sustainable competitive advantage. Also, the strong competition is an additional pressure for larger investments in the work and maximum use of its own potentials.

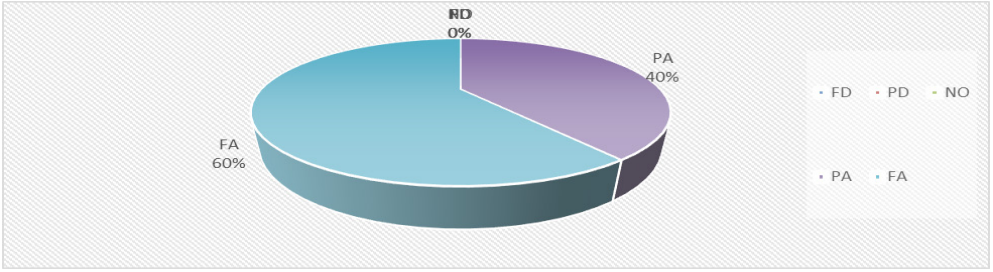
Graph 3: Competition in the branch in which the surveyed enterprises work



Source: Own research

Considering that the target of this research are the enterprises in the Republic of Macedonia that are recognizable by the innovativeness incorporated in their work, in order to determine the education factor and its reflection on it, the data contained in Graph 4 confirm the suitability of the sample. Namely, all surveyed enterprises are characterized by innovation, and are different from each other only by the degree of it(some are more, some are less innovative).

Graph 4: *Perception on surveyed enterprises about their innovation*



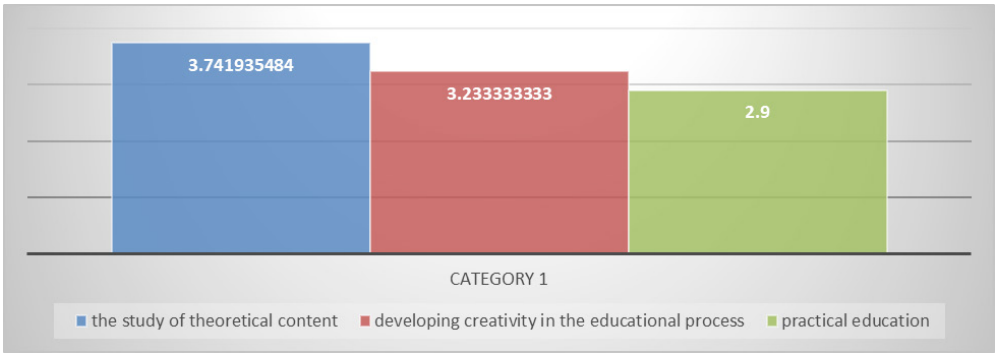
Source: Own research [13]

Regarding the data that reflect the situation with the entrepreneurial education, it should be noted that these data give insight into the conditions and characteristics of the education in the Republic of Macedonia in the period when the respondents were educated.

[13] **Meaning**:FD – fullydisagree, PD – partiallydisagree, NO – havenoopinion, PA – partiallyagreeand FA – fullyagree

Graph5 presents how the respondents answered the individual questions on the basis of which the value of this variable was determined. These are arithmetic means (mean values) of the answers of the respondents on the questions that address the three basic components of the entrepreneurial education: the study of theoretical contents in the field of entrepreneurship, creative teaching and practical classes.

Graph 5: *Assessment of individual aspects of entrepreneurial education*

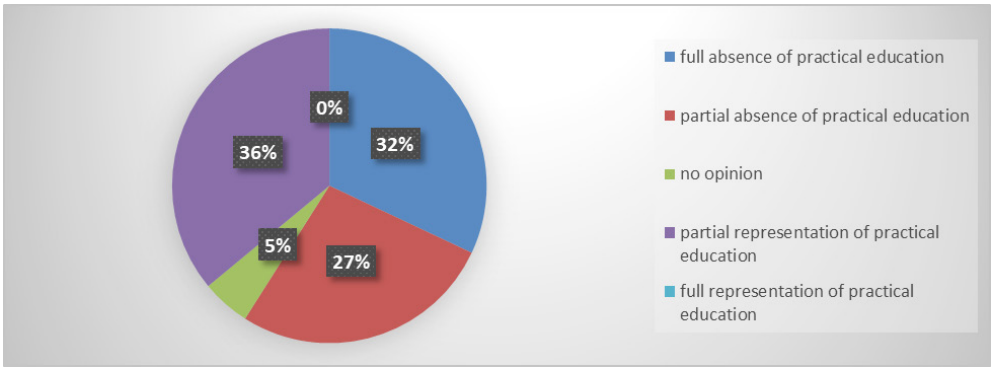


Source: Own research

Graph 5 presents how the representatives evaluated the individual aspects of entrepreneurial education on the basis of which we determined the value of this variable. We can conclude that the employees of enterprises have acquired their knowledge of entrepreneurship to a high level degree through formal education. The quality of education from the aspect of development of the creative capacities of individuals was rated with a mark 3.233, and from the aspect of acquiring practical experience through practical lessons in entrepreneurship or work in improvised case studies, it was assessed with a lower mark of 2.9.

Graph 6 gives us an overview of the represented dispersion in the responses of the respondents regarding the question of the application of practical teaching in the educational process.

Graph 6: *Dispersion of the assessment for the application of practical training*



Source: Own research

The dependent variable **- Innovation as a sustainable competitive advantage of the enterprise** i.e. the degree of innovation of the enterprises is determined as a composite assessment of six questions/attitudes that represent the perceptions of the surveyed persons for their enterprises on several grounds.

On the other hand, **entrepreneurial education** is treated by three different aspects:

- the study theoretical contents for entrepreneurship
- the development of the creative capacities of individuals throughout the educational process through appropriate teaching methods and
- the acquisition of practical experiences during the entrepreneurial education.

(Dependent and independent variables are more minutely elaborated in the next chapter.)

By bringing in correlation of the set variables, the hypothetical framework will be confirmed, or rejected, and a conclusion will be drawn on the impact and the situation on this issue in the enterprises of the Republic of Macedonia.

The research techniques used in this research is the technique of polling and the technique of content analysis.

In the part of the survey, the questionnaire used is created following the example of the Likert scale with options 1 (*I do not agree*) to 5 (*I fully agree*).

From a methodological point of view, the research is based primarily on

analytical descriptive methodology, which aims to select relevant knowledge that will respond to the essential questions posed by the research. The deductive and inductive locking procedure was used for making conclusions.

4. RESULTS OF DATA ANALYSIS

In line with the needs of this research, a questionnaire was prepared to address the three basic components that reflect entrepreneurial education, which are important for creating creative potentials for individuals who later appear as a key resource for achieving enterprise innovation.

Here are the claims that are used to construct the independent variables:

ENTREPRENEURIAL EDUCATION

1. **Theoretical knowledge of entrepreneurship**

I have gained theoretical knowledge in the field of entrepreneurship through formal education.

2. **Creative Teaching**

During the course of my education, I managed to overcome the teaching contents through active and creative teaching (we learned through discussion and the conclusions were very often unexpected).

In the course of education, we solved the problems/questions independently.

3. **Practical education**

During the course of education we had obligatory practical training or we were engaged in improvised case studies.

Dependent variable – **PERCEPTION OF ENTERPRISE INNOVATIVITY AS A SUSTAINABLE COMPETITIVE ADVANTAGE** -is determined as a composite assessment of six questions/attitudes that represent the perceptions of the surveyed persons for their enterprises on several grounds:

- profitability (as a picture of the economic results that it achieves on the basis of the realized innovation) and
- competitive position of the company built on innovation in terms of ex-

isting competitors, potential competitors, customer satisfaction and so on, according to the five forces of competitiveness proposed by Michael Porter in his model.

Innovation is determined by these questions/attitudes:

1. Do you consider your company innovative in terms of your products, way of managing, etc.
2. The profitability of your company records the desired growth.
3. The innovative characteristics of your products/services contribute to the greater satisfaction of our consumers. That is why the number of consumers is growing and demand is increasing!
4. The innovations in the products/services we offer on the market create a new need for consumers who cannot be easily replaced and satisfied with other products/services.
5. Thanks to the innovation, we have taken over some of the consumers of our competition.
6. The innovation of the product/service you offer on the market is hardly viable for new competitors in the industry (in terms of investment, experience, technology, resources, etc.)

Based on the individual element of variable entrepreneurial education, three individual hypotheses are singled out, which will be tested with the Chi square test of independence.

Hypothesis 1*: The study of theoretical content for entrepreneurship influences innovation as a sustainable competitive advantage for enterprises.*

Table number 1: Results of the χ^2 - test

Chi-SquareTests

	Value	df	Asymp. Sig. (2-sided)
PearsonChi-Square	49,263[a]	48	,422
LikelihoodRatio	40,057	48	,786
Linear-by-LinearAssociation	,398	1	,528
N of ValidCases	31		

a. 65 cells (100,0%) haveexpectedcountlessthan 5. Theminimumexpectedcountis ,03.

Chi square value is 49,263and the probability of the chi-square test (p) is 0,422 ratio is greater than the alpha level of significance of 0,5, therefore the hypothesis 1 **is rejected.**

Hypothesis 2: *Developing the creative capacities of individuals throughout the educational process on innovation as a sustainable competitive advantage for enterprises.*

Table number 2: Results of the χ^2 - test

Chi-SquareTests

	Value	df	Asymp. Sig. (2-sided)
PearsonChi-Square	106,145[a]	96	,225
LikelihoodRatio	77,940	96	,911
Linear-by-LinearAssociation	2,853	1	,091
N of ValidCases	31		

a. 117 cells (100,0%) haveexpectedcountlessthan 5. Theminimumexpectedcountis ,03.

Chi square value is 106,145, and the probability of the chi-square test (p) is 0,225 ratio is greater than the alpha level of significance of 0,5, therefore thehypothesis 2**is rejected.**

Hypothesis 3: Acquiring practical experience through practical classes in entrepreneurship or the work of improvised case studies affect innovation as a viable competitive advantage of enterprises.

Table number 3: Results of the χ^2 - test

Chi-SquareTests

	Value	df	Asymp. Sig. (2-sided)
PearsonChi-Square	49,735[a]	48	,404
LikelihoodRatio	47,893	48	,477
Linear-by-LinearAssociation	,141	1	,707
N of ValidCases	31		

a. 65 cells (100,0%) haveexpectedcountlessthan 5. Theminimumexpectedcountis ,10.

Chi square value is 49,735, and the probability of the chi-square test (p) is 0,404 ratio is greater than the alpha level of significance of 0,5, therefore the individual hypothesis 3 **is rejected.**

The data from the survey were obtained from respondents who are in an active working period of their lives and completed their education some time ago, therefore, from the above statistical conclusions from the three individual hypotheses, it can be concluded that in the Republic of Macedonia the educational system in the past didn't note the necessary entrepreneurial features and as such, today it is not the basis for building innovation in enterprises,

Conclusion

In the Republic of Macedonia the innovation of the enterprises is not based on the creative potentials of a person that should be obtained as a real consequence of entrepreneurial education. On the contrary, it is a random process based on the natural potentials of people not intentionally developed by the system.

Namely, from the offered answers of the respondents it can be seen that the greatest dispersion in answers is evident in the part of the research of the opinions related to the application of teaching methods in the educational process, more precisely the presence of practical classes. It is about the value of the standard deviation in the amount of 0,92050 with a standard error of 0,16533. From the research aimed at examining strictly Macedonian companies, assuming that it is a matter of individuals who have acquired education in Macedonia (since this is not only about higher education, but also primary and secondary), the offered answers could be considered as a signifier for an alarming situation in the Macedonian education. Namely, what appears to be the main feature of the educational process in the past is the lack of unification and strategic orientation of the process itself. The answers to the question show such a high level of diversity ranging from maximum positive experiences (acquiring high entrepreneurial knowledge and applying practical teaching), to the total absence of creativity in the teaching process and complete division of the theory from the practice. The educational system with such characteristics is expected to not be able to achieve mass delivery of individuals who will have the necessary entrepreneurial qualifications (more in terms of the creative potential of the person than theoretical entrepreneurial knowledge), which is verified by the research.

Such results, which very clearly indicate the shortcomings of the former education in the Republic of Macedonia, are the basis for creating a recommendation for directing the Macedonian educational process towards building individuals with distinctive creative capacities and skills recognizable for the contemporary environment.

Reforms of the educational process are justified and should continue in the direction of eliminating the lack of strategically structured education that will serve the same goal- creating individuals with entrepreneurial capacities.

Of course, in order to achieve such objective, besides the part of content, in particular, it is necessary to refresh in the part of the teaching methods used in the teaching process and to ensure their unification at state level. The paper leaves room for future research on this topic and deepening of the underlying issues.

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