

ENTREPRENEURSHIP, COMMUNICATION AND ICT IN SECONDARY EDUCATION

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Abstract

Education is essential to developing young people's skills and culture. It is vital that entrepreneurship education is addressed from the secondary education. Entrepreneurship education is essential not only to shape the mindsets of young people but also to provide the skills that are important to developing an entrepreneurial culture.

The entrepreneurship key competence refers to an individual's ability to turn ideas into action. It includes creativity, innovation, and the ability to plan projects in order to achieve objectives.

Besides, communication and ICT are relevant in innovation processes in organizations, especially in schools where people interact daily and it is intended to ensure a good future for the organization.

In schools, the existence of good communication and the use of ICT is a relevant factor for the integration of teaching innovative projects related to entrepreneurship. A good communication ensures the dissemination of educational innovation processes adopted by the teachers. It's relevant to improve teaching practice. Communication and the ICT play a key role in the processes of educational innovation. The incorporation of innovative materials, ICT, courses and communication activities, and the use of the media to extract information, are very important.

Communication is essential in the secondary education. If the communication flows were eliminated in the school, we would not have school. Communication is introduced into all activities of the school, representing an important tool with which individuals understand their role in the school and integrates organizational departments.

The secondary schools are organized through a model based on the participation and collaboration of its component, coordinating the actions of different people in order to achieve the proposed educational objectives. Therefore, the optimal operation of a secondary school is closely related to communication processes taking place in this organization.

This paper studies the entrepreneurship, communication processes and the ICT in secondary education. Media and communication channels used in secondary schools to spread the teaching innovation projects related to the entrepreneurship are studied. Supports or conventional tools and new technologies for communication in educational organizations are also analysed when it is studied and worked the entrepreneurship in the classroom.

Keywords: Entrepreneurship Communication, ICT, innovation, secondary school, educational organizations.

1 INTRODUCTION

Education is essential to developing young people's skills and culture. It is vital that entrepreneurship education is addressed from the secondary education. Entrepreneurship education is essential not only to shape the mindsets of young people but also to provide the skills that are important to developing an entrepreneurial culture.

The entrepreneurship key competence refers to an individual's ability to turn ideas into action. It includes creativity, innovation, and the ability to plan projects in order to achieve objectives. Strengthen entrepreneurship in secondary education is essential to encourage the development of new business-oriented culture that fosters innovation and creativity in the future. Training and education are one of the main factors that differentiate entrepreneurs from non-entrepreneurs ([1]).

On the other hand, it is stated in its report "Entrepreneurship in higher education, especially within non-business studies" which in Europe it is necessary to promote a greater entrepreneurial spirit among young people, to support the creation of new innovative companies, and to strengthen a culture that is closest to entrepreneurship and the growth of SMEs ([2]).

The entrepreneurial spirit is developed in the individuals who demonstrate a true passion for building something great from nothing and they are willing to push themselves to the limits to achieve very big goals.

Entrepreneurial training is becoming one of the cornerstones in the curriculum ([3]). Creativity in the field of entrepreneurship is difficult to teach ([4]). For this reason, it is considered necessary educational innovation projects related to creativity and entrepreneurship in general.

Furthermore, Article 23 of the Law 2/2006 of Education in Spain (LOE) defines the objectives of compulsory secondary education (ESO). This will help to develop in students and pupils the skills to enable them:

1. To develop and consolidate habits of discipline, study and individual and teamwork as a necessary condition for effective implementation of the tasks of learning and as a means of personal development.
2. To develop basic skills in the use of sources of information to, with critical sense, acquire new knowledge.
3. To acquire a basic preparation in the field of technologies, especially information and communication.
4. To develop entrepreneurship and self-confidence, participation, critical sense, personal initiative and the ability to learn to learn, to plan, to make decisions and to take responsibility.

Furthermore, Article 24 of the LOE states that in the first cycle of compulsory secondary education will work in all subjects reading comprehension, oral and written expression, audiovisual communication, information and communications technology, entrepreneurship and civics and constitutional education.

In addition, the LOE states that the high school must provide students with training, intellectual and human maturity, knowledge and skills to develop social functions and enter active life with responsibility and competence. High school students must develop the capabilities to:

1. To use the information and communications technology reliably and responsibly.
2. To consolidate the entrepreneurial spirit with attitudes based on creativity, flexibility, initiative, teamwork, self-confidence and critical sense.

Given the above, it is considered important to promote and encourage students to participate in activities that will allow strengthen the entrepreneurial spirit and the entrepreneurial initiative from skills such as creativity, autonomy, initiative, teamwork, trust in self and critical sense.

On the other hand, communication is essential in the secondary education. If the communication flows were eliminated in the school, we would not have school. Communication is introduced into all activities of the school, representing an important tool with which individuals understand their role in the school and integrates organizational departments. The secondary schools are organized through a model based on the participation and collaboration of its component, coordinating the actions of different people in order to achieve the proposed educational objectives. Therefore, the optimal operation of a secondary school is closely related to communication processes taking place in this organization.

Educational communication exists to provide methods and procedures in order to create educational competence by educating ([5]). Communication and education are indivisible ([6]). Internal communication is the set of activities carried out by any organization to create and maintain good relations among its members through the use of different media to be kept informed, integrated and motivated in order to contribute to organizations ([7]). Internal communication can define as "synonymous of organization." ([8]). Internal communication serves as a channel of communication between members of the organizations in general and between schools in particular ([9], [10]).

Besides, communication and ICT are relevant in innovation processes in organizations, especially in schools where people interact daily and it is intended to ensure a good future for the school. Communication influences the behavior of members of the school and therefore its organizational behavior to achieve its objectives. Through communicative process pupils and teachers exchange

data, process, interpret and assign meaning. Therefore, the information is the result of the communication process. New technologies are not only creating new forms of communication, but they are also changing the way the old channels of communication are used ([11]).

In schools, the existence of good communication and the use of ICT is undoubtedly a factor of great weight for the integration of teaching innovative programs with ICT. A good communication ensures the dissemination of educational innovation processes adopted by the teachers with their pupils. It's relevant to improve teaching practice. Today, communication is being recognized as a key variable for schools. Communication is an ally to achieve strategic objectives in changing situations. Communication and the ICT play a key role in the processes of educational innovation ([1]).

2 RESEARCH OBJECTIVE

The objective of this paper is, on the one hand, to study communication processes and the ICT in secondary education when the entrepreneurship is studied and worked in the classroom, and on the other hand, to study the perception of students about their entrepreneurial skills.

Another aim is to promote the development of entrepreneurial spirit, entrepreneurial skills and attitudes in secondary school in order to practice knowledge, skills and attitudes related to entrepreneurship.

3 METHODOLOGY

A questionnaire to thirty-two students in their third year in the secondary school has been performed, according to the reviewed literature, to gather the views of qualitative and quantitative aspects of entrepreneurship, with the aim of developing innovative educational projects related to entrepreneurship. Received information has been analyzed and classified. We used a Likert scale of 1-5 (1: never, 5: ever).

In this paper the perception of the students on the following entrepreneurial skills is studied: self-discovery, communication and creativity.

The paper is organized as follows: first, we developed the framework on entrepreneurship, ICT and communication and a review of the existing literature is made. Secondly, we present the methodology, sample characteristics and justification of the variables used. Third, we conducted an analysis of the results, and finally, we develop the main conclusions.

SPSS statistical software has been used in order to process the data and get the results.

4 RESULTS

From the questionnaires completed by students and taking into account the items of studied entrepreneurial skills: self-discovery, communication and creativity, statistical results shown below are obtained.

The following statistical parameters for each of the studied variables are shown: mean, standard error of the mean, median, mode, standard deviation, variance, minimum and maximum. Frequency distribution and normal distribution are also shown.

Self-discovery or Self-knowledge refers to know the internal states, preferences, resources and intuitions, based on experience, in order to achieve their goals. In Table 1, statistical parameters about variable "Self-discovery" are shown. Mode is 4 and mean is 3,70. Pupils consider that they have a high Self-discovery.

Table 1. Self-discovery statistical parameters

N	32
Mean	3,70
Standard error of the mean	,109
Median	3,75
Mode	4
Standard Deviation	,617
Variance	,381
Minimum	2
Maximum	5

In Fig. 1 we can see Frequency distribution and Normal distribution of the variable Self-discovery.

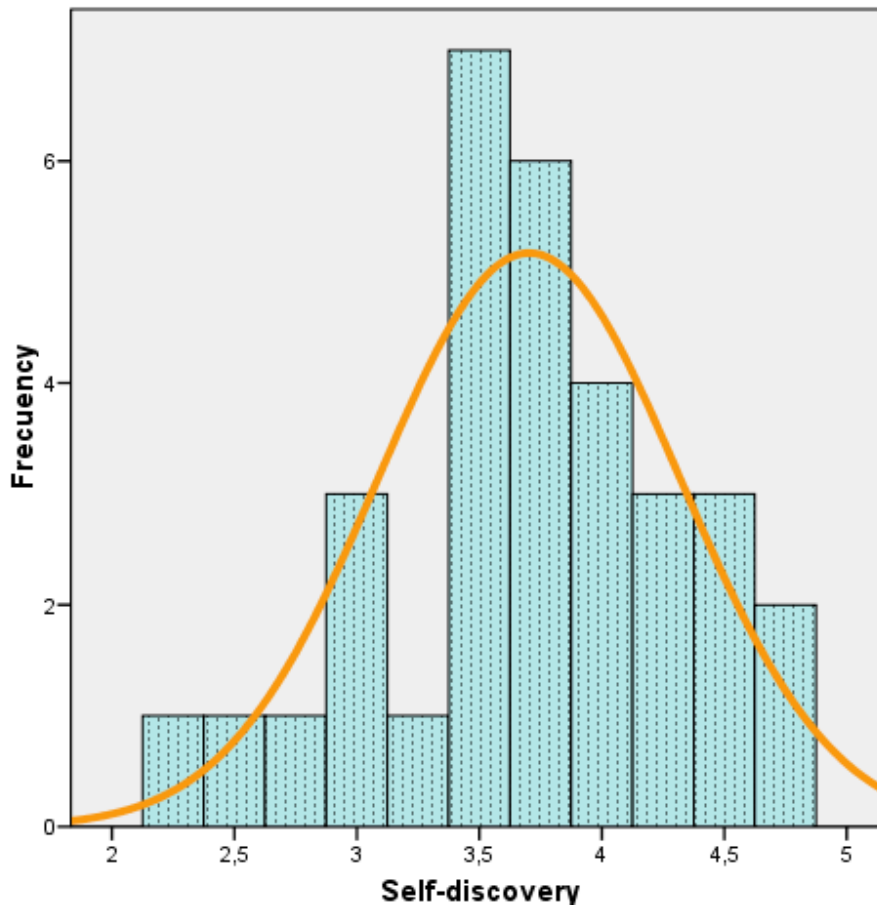


Fig. 1. Self-discovery. Frequency distribution and Normal distribution

Too often, entrepreneurs need to have very good communication skills. This communication is achieved by listening to people, working together, looking for new friends and trying to influence others. The communication of students has been assessed. Table 2 shows the results obtained. The students have good communication skills.

Table 2. Communication statistical parameters

N	32
Mean	3,67
Standard error of the mean	,112
Median	3,75
Mode	4
Standard Deviation	,633
Variance	,401
Minimum	2
Maximum	5

In Fig. 2 we can see Frequency distribution and Normal distribution of the variable Communication.

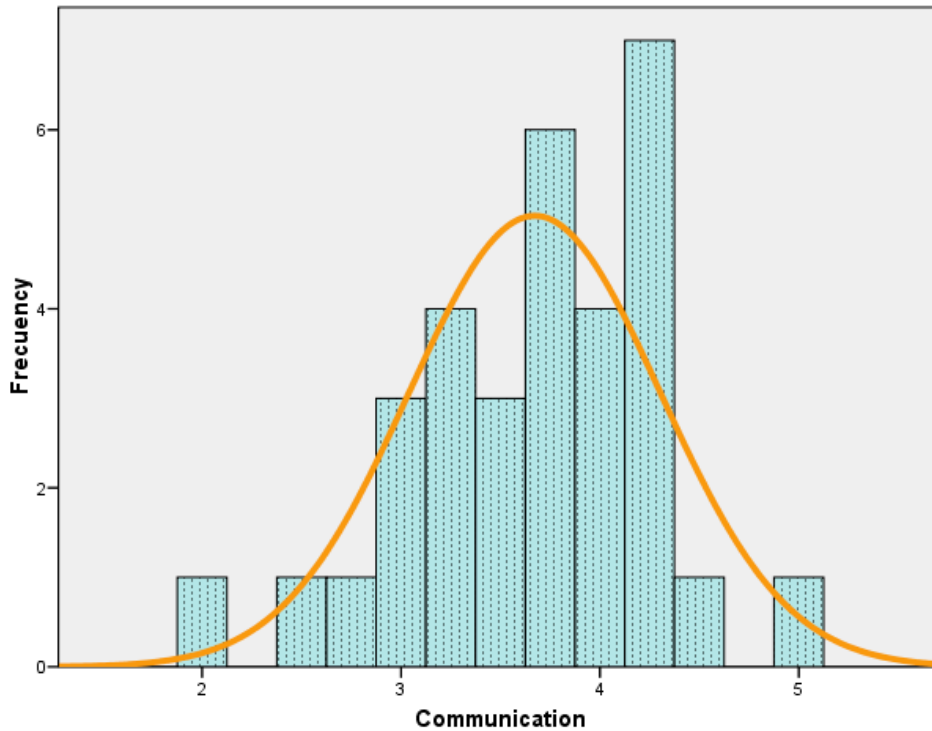


Fig. 2. Communication. Frequency distribution and Normal distribution

Entrepreneurs show great curiosity about new products, processes and new ways of doing things. Creativity is synonymous with initiative and innovation. Creativity results in products and original procedures. It provides new solutions to unresolved issues. Entrepreneurs are very enthusiastic about everything new.

In Table 3, statistical parameters about variable "Creativity" are shown. Mean is 3,44 and median is 3,40. Pupils consider that they have a high Creativity.

Table 3. Creativity statistical parameters

N	32
Mean	3,44
Standard error of the mean	,140
Median	3,40
Mode	2(a)
Standard Deviation	,790
Variance	,624
Minimum	2
Maximum	5

(a) There are various Modes. The smaller of the values are displayed.

In Fig. 3 we can see Frequency distribution and Normal distribution of the variable Creativity.

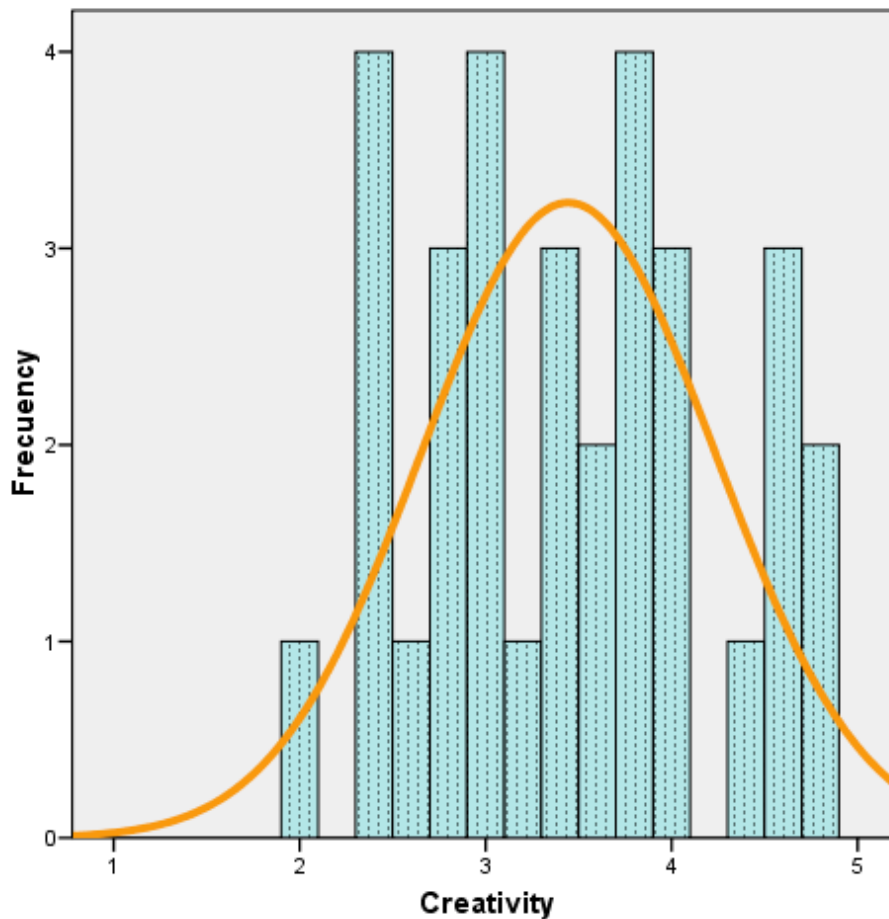


Fig. 3. Creativity. Frequency distribution and Normal distribution

On the other hand, the results state that 40% of students have the idea of being an entrepreneur and starting your own business.

Furthermore, in secondary schools, a good communication and the use of ICT is a relevant factor for the integration of teaching innovative projects related to entrepreneurship.

According to the used channel the most common forms of transmission are oral and written communication. Choosing one or the other channel, or the combined use of both, is determined by various circumstances such as the type of message and the urgency of the transmission.

Regarding upstream communication and downward communication, information flow occurs verbally through informal meetings to work about entrepreneurship with pupils, face to face conversations and meetings among teachers, and among pupils and teacher.

5 CONCLUSIONS

Analyzing the results, it can be concluded that, according to several authors, ICT plays an important role in the classroom of secondary education when entrepreneurship is encouraged ([12] and [13]).

According to [14] and [15], it is considered that there is a good communication between students and between students and teacher.

A good communication ensures the dissemination of educational innovation processes adopted by the teachers and related to entrepreneurship. It's relevant to improve teaching practice. Communication and the ICT play a key role in the processes of educational innovation.

The incorporation of innovative materials, ICT, courses and communication activities, and the use of the media to extract information, are very important in the classroom. Educational innovations that may arise in any educational institution are varied and they can be applied in different ways ([16]).

When the entrepreneurship is studied and worked in the classroom, the use of new technologies for communication is relevant, for both students and for teachers, because ICT facilitate the interactivity, creativity and motivation of all of them. The use of communication strategies in the school influences the success of educational innovation with ICT ([17]). Mass media and digital communication are relevant in educative innovation projects intended to improve, both qualitatively and quantitatively, the teaching and learning processes ([18]).

Communication and education are closely related ([19], [20] and [21]). In this sense, education is approached as a communication space in the culture that emerges from the Information Age. Media are very important in the learning process, since activating the ability to understand and redefine the way in which pupils and teachers communicate and introduce changes in education. It is done through the incorporation of innovative materials, courses and communication activities for example related to entrepreneurship, as well as the use of media to extract information ([22], [23], [24], and [25]).

Besides, pupils consider that they have a high self-discovery. They consider that they have preferences, resources and intuitions, based on experience, in order to achieve their goals.

On the other hand, students have good communication skills, listen to people, work together, look for new friends and try to influence others.

Finally, pupils show great curiosity about new products, processes and new ways of doing things. They have a lot of creativity. It is hoped that their creativity results in products and original procedures and they can provide new solutions to unresolved issues. At the same time, they are very enthusiastic about everything new.

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