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# The Role of the Polish Higher Education System in the Development of Entrepreneurship

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**ABSTRACT**

**Objective**: The objective of this paper is to present the perceived impact of entrepreneurship education in Poland from different points of view (e.g. of national experts and students), as well as to discuss the role of the higher education system in entrepreneurship development.

**Research Design & Methods**: The method partly consists of the analysis of selected secondary data (Eurobarometer survey and GEM project). Additionally, an explorative study was carried out among the students of an entrepreneurship course offered by the Faculty of Management at the Poznań University of Economics and Business.

**Findings:** Formal education does not seem to play a major role in the development of entrepreneurship among young people in Poland; however, it begins to improve when the tertiary level of education is taken into consideration. Additionally, the fragmentation of studies makes it difficult to measure and ascertain the total impact of the higher education system on entrepreneurship development.

**Implications & Recommendations:** More effort should be made to evaluate the real impact of the educational activities proposed by the academic community on the entrepreneurship of young people. The role of the formal education system, especially at the tertiary level, is underestimated, and has great potential to influence the entrepreneurial attitudes and behaviour of students and graduates.

**Contribution & Value Added:** The contribution of this work is to propose a more comprehensive framework for studying the role of the higher education system in the development of entrepreneurship in Poland.

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|---|---|
| **Article type:** | research paper |
| **Keywords:** | economic education, entrepreneurship; education; entrepreneurial development; institutional environment; universities |
| **JEL codes:** | A22, A23 |

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## INTRODUCTION

Thus far, the well-known question "Are entrepreneurs born or made?" does not seem to have received an unambiguous response from the scientific community. Some researchers suggest the importance of an "entrepreneur gene", and others indicate the role of education in entrepreneurship development (Daley, 2013). Looking at European policies, strong support for the other approach can be clearly seen. The Entrepreneurship Action Plan adopted by the European Commission aims to promote a favourable environment for entrepreneurial activity in Europe, as well as the teaching skills essential in the entrepreneurial process (Florea & Florea, 2013). Entrepreneurial activity is supposed to be one of the crucial factors stimulating economic growth, competitiveness and new jobs creation (European Commission 2012; Sautet, 2013, p. 389). For this reason, the institutional environment of entrepreneurship, composed of both formal and informal institutions, is going to be changed through political initiatives. The educational systems of EU countries form part of that institutional environment, and due to this will be expected to follow European guidelines and to incorporate entrepreneurship education at different levels in their educational policies. However, as the European Union plays only a supportive role in this area of competence, the policy of education, including entrepreneurship education, depends on the real activities undertaken by the authorities of the Member States (Wach, 2014, p. 23). The extent of these actions varies across countries, and for many of them it is still regarded as a real challenge. There is no consistent framework for entrepreneurship education, and so far the discussion among researchers about the aims and results of such education is still ongoing.

The literature review confirms the increasing interest of scholars in the development of an entrepreneurial mindset and entrepreneurial skills through dedicated entrepreneurship programmes. The studies conducted in this field are normally oriented to certain specific characteristics of the phenomena (e.g. entrepreneurial intentions), and are presented from a particular point of view. There are not many attempts to give a broader perspective which contains a range of different perceptions and values attributed to entrepreneurship education, and more globally, to the higher education system as a whole.

The aim of the paper is to present the perceived impact of entrepreneurship education in Poland from different points of view (e.g. of national experts and students), especially at the tertiary school level, as well as to discuss the role of the higher education system in entrepreneurship development. The article is organised as follows: in the next section the main study streams regarding entrepreneurship education, especially at the higher education level, as well as the limitations and shortcomings of the investigations carried out in this field are reviewed. In the third section of the article, the material and methods are presented, which partly consists of the analysis of selected secondary data (e.g. Eurobarometer survey and the Global Entrepreneurship Monitor (GEM) project). Additionally, the method consists of an explorative quantitative study carried out among the students of an entrepreneurship course offered by the Faculty of Management at the Poznań University of Economics and Business. The data collected on the basis of a questionnaire, as well as the data from secondary sources are descriptively presented and discussed in section four of the article. Finally, the conclusions and limitations of the

study as well as the implications for future studies are outlined in the last part of the article.

## LITERATURE REVIEW AND THEORY DEVELOPMENT

The idea of promoting entrepreneurship at schools and universities is becoming more and more popular in recent years. Among different areas of formation, specific courses in what is called "entrepreneurship education" are being developed, at different degrees of studies and not only in the typical field of economic studies (Płaziak & Rachwał, 2014).

Before concentrating on entrepreneurship education as a particular type of formation, a short overview of the general relationships between educational systems, entrepreneurial activities and a knowledge-based economy should be given (Figure 1). The central factor in this "chain" is knowledge, which is created by and accumulated in the institutional environment. The role of schools and universities is supposed to be the transmission of knowledge, the formation of students' skills and attitudes, as well as enabling them to use the knowledge and skills in a productive way to support social and economic development and growth. One of the forms of knowledge application are students creating and developing their own companies.

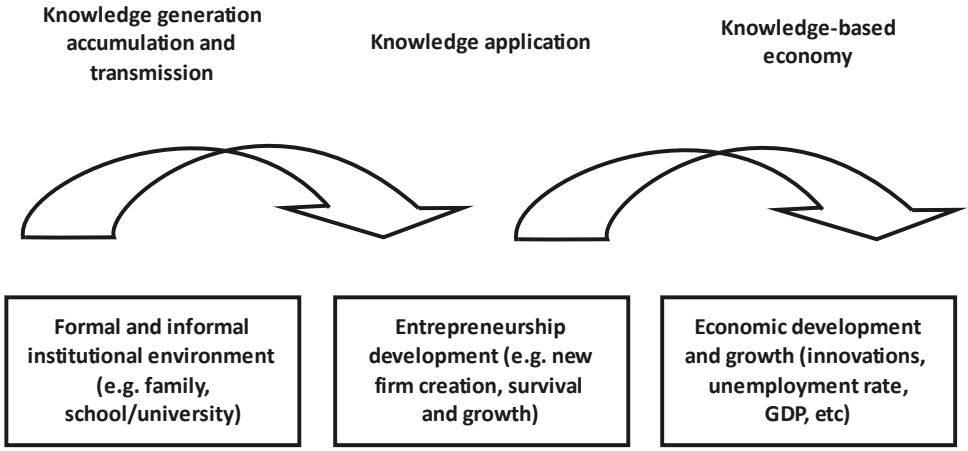


**Figure 1. Knowledge as a key factor in economic growth and development**
Source: own elaboration.

A review of the literature on education, entrepreneurship and economic growth permits the identification of the different areas in which education influences the socio-economic situation of a country, through enabling individuals to perform entrepreneurial activities (Mars & Rios-Aguilar, 2010; Smith & Bagchi-Sen, 2012; Sautet, 2013). In Table 1 some important research topics regarding the relationships between formal education, entrepreneurial development and economic growth are presented. First of all, the evolving role of universities in society is highlighted by many authors. On the one hand, the role of the university in human capital development is emphasised, and on the other hand, its new mission, viewed as the transmission of knowledge from universities to enterprises, is considered (Audretsch, 2014; Carree *et al.,* 2014; Leyden & Link, 2013).

A significant stream of research concentrates on the effectiveness of entrepreneurship education, as well as its impact on entrepreneurial intentions, behaviour and rates of entrepreneurship (Rauch & Hulsink, 2015, Jiménez *et al.,* 2015). Finally, entrepreneurship is perceived as a mechanism to transform economic knowledge into economic growth (e.g. Carlsson *et al.,* 2009).

Factors relating to education, such as work experience and training which have an influence on human capital, have been claimed to play an important role in the success of entrepreneurs (Paltasingh, 2012) or the survival of a company (Nowak, 2013). Also for this reason, initiatives connected with entrepreneurship education have arisen around the world in recent years.

**Table 1. Research topics regarding the relationships between education, entrepreneurship and economic growth**

| Main topic/concept; Conclusions/findings | Author(s) |
|---|---|
| The evolving role of the university in society: the emergence of the "entrepreneurial university" and the "university for the entrepreneurial society". | Audretsch (2014) |
| The problem of effectiveness of entrepreneurship education; findings: positive impact on attitudes, higher entrepreneurial intentions and entrepreneurial behaviour. | Rauch & Hulsink (2015) |
| The impact of formal education on entrepreneurship rates; findings: positive effect of tertiary education on formal entrepreneurship and negative impact on informal entrepreneurship. | Jiménez *et al.* (2015) |
| Entrepreneurship as a "mechanism" which helps to "convert economic knowledge into economic growth"; distinction between "general knowledge" and "economically useful knowledge". | Carlsson *et al.* (2009) |
| Knowledge Spillover Theory of Entrepreneurship; "the transmission of knowledge to business enterprises" being the role of universities. | Leyden & Link (2013) |
| Entrepreneurship as a "mechanism" to "transform academic knowledge into economic growth"; the "third mission" of the university: "research collaborations with the private sector". | Carree *et al.* (2014) |

Source: own compilation based on a literature review.

In both literature and practice different approaches to entrepreneurship education can be identified. Many authors distinguish between education "about" and "for" entrepreneurship. The first one looks at entrepreneurship as a phenomenon and describes its characteristics and importance for society and the economy. The other type of entrepreneurship education aims at fostering those skills that are useful in the process of company creation and development (Duval-Couetil, 2013; Fretschner & Weber, 2013). According to Kwong *et al*. (2012), if we consider the two components of entrepreneurship as "science" and "art", university entrepreneurship education can support the first by delivering knowledge and skills, rather than improving innovation and the creativity of the students (Kwong *et al.,* 2012). Among the advantages of entrepreneurship courses offered by universities, values such as trust, networking, and social capital building can be mentioned (Gordon *et al.,* 2012).

There are also some sceptical voices that doubt whether entrepreneurship education can really exert any positive effects on entrepreneurial behaviour. One of the most important principles which should be taken into account in the construction of entrepre-

neurship education programmes is the assumption that entrepreneurs really learn by experience, so university staff who design such programmes need to know and understand "entrepreneurial learning mechanisms" (Gordon *et al.,* 2012).

Entrepreneurship education as a scientific and educational field is facing a certain number of limitations defined by Fayolle (2013, pp. 697-698), such as the following:

- the fragmentation of studies which creates difficulties in the accumulation of knowledge,
- the general lack of legitimacy for the field and, related to this, marginalisation in the best entrepreneurship journals,
- the lack of research based on theory (theory-driven research),
- the lack of a critical and reflexive approach in studies and education,
- the lack of experienced entrepreneurship educators with good qualifications.

The state of development in this field differs across EU countries and depends on the institutional solutions adopted by the policy makers. One of the most important questions concerns the outcomes of the methods used for the promotion of an entrepreneurial mindset through the formal education system. The effects of entrepreneurship education can be noticed many years after graduation from universities (Brush, 2013), and it is rather difficult to measure the total impact of educational policy on the entrepreneurial activities of the members of society. On the one hand, the creation of new companies is only one of the possible outcomes of participating in different kinds of entrepreneurial formation; and on the other hand, the decision about starting a business is determined by many factors, not only educational.

Gull and Fayolle (2015) point out that, in general, there is a lack of investigations which explore the perceptions and values attributed by students to entrepreneurship education in terms of developing their entrepreneurial skills. If we take into consideration the new member states of the European Union and other transition countries, knowledge about the status of entrepreneurship education in their higher education institutions is still limited (Varblane & Mets, 2010). In the particular case of Polish students it was observed by Jones *et al.* (2008) that participation in a course about starting a new enterprise had a positive effect on their attitudes and perceptions towards entrepreneurship, understood as the creation of one's own company after graduating. The study concentrated mainly on the future entrepreneurial intentions of Polish students, but they also found the content of the course and the learning experience useful (Jones *et al.,* 2008). According to Wach (2015) family entrepreneurial experiences also have an impact on the entrepreneurial intentions of Polish students.

It can be argued that the literature about the effectiveness of entrepreneurship education is limited (Jones *et al.,* 2008), and there is a need for improved knowledge about students' perceptions regarding the effects and value of entrepreneurship education, and about the general impact of the higher education system on the entrepreneurial activities of a society. The article intends to give a more general view as to the role of the Polish educational system in entrepreneurship development by providing different points of view, as well as making a small contribution to a better understanding of how students perceive the impact of formal educational programmes on their entrepreneurial development in comparison to other factors (e.g. family environment).

## MATERIAL AND METHODS

To meet the main objective of the study, complementary sources of information were used. At the beginning, the secondary data was gathered and analysed in order to explore the findings from different internationally recognized investigations, and to obtain a more general view regarding the impact of the educational system on entrepreneurship development in Poland. For this purpose, the structure of responses given by Polish respondents in the Eurobarometer survey ("Entrepreneurship in the EU and beyond"), requested by the European Commission, was presented. Moreover, the average grades given by national experts of the Global Entrepreneurship Monitor (GEM) project in Poland, regarding the quality of the institutional environment for entrepreneurial activities, were analysed in comparison to other European countries.

The second part of the study consists of the primary data analysis, based on a research questionnaire developed by the author, to investigate the situation from the students' perspective. This study has an exploratory character and was conducted on a small group of students ($n$=18) from the Poznań University of Economics and Business in the initial phase of the Entrepreneurship in Small and Medium-sized Enterprises specialisation (first year of master's degree programme) in the academic year 2014/2015. As they were at the beginning of their entrepreneurship course, their opinions referred partially to their past experiences with formal education in Poland. Most of them were 22 or 23 years old and came from the Wielkopolska region. The questionnaire was based on the 5-point Likert scale, as well as close-ended questions ("yes", "no", "don't remember"). The students were asked to evaluate the impact of different aspects of formal education on their entrepreneurial abilities, as well as to indicate the main sources of their entrepreneurial competences. The data was analysed using descriptive statistics.

On the basis of a literature review and the previous studies of the author, the following hypotheses were formulated:

**H1:** The role of the formal education system in entrepreneurship development, especially at the tertiary level, is underestimated due to the lack of a comprehensive framework for investigation.

**H2:** The general evaluation of the role of formal education in Poland in entrepreneurship development improves when the tertiary level of education is taken into account.

## RESULTS AND DISCUSSION

Poland is one of the countries which have incorporated entrepreneurship into the national framework of education (Pietrzykowski, 2011); however, entrepreneurship as an educational field is still at the development stage. An important problem governing the generation of research as well as programmes "about" and "for" entrepreneurship at universities is still the marginalisation of this area as a scientific and academic field and insufficient legitimacy in the scientific community (MIiR-OECD 2013; Kurczewska, 2013). In spite of this, many new initiatives have appeared in recent years, such as courses and master's degrees related to entrepreneurship and company creation; departments of

entrepreneurship and innovation at universities; incubators; programmes for coaching young entrepreneurs; awards for the best business ideas of students; etc. On the other hand, the community of researchers who are interested in entrepreneurship and entrepreneurship education has started to consolidate and its members share their experiences and achievements. It can be concluded that the situation in Poland regarding the promotion of entrepreneurship among students and graduates is getting better, but there is still a lot of work to do (Pietrzykowski, 2011). Another problem is the percentage of students who have ever participated in any kind of entrepreneurial programme or course, and the collection of data reflecting the number of firms created by them in the future.

**Eurobarometer Survey**

The results of a survey requested by the European Commission and conducted among EU countries permit the perceived impact of formal educational systems on the entrepreneurial behaviour of the citizens to be evaluated. The data below presents the answers of the Polish respondents (Table 2).

Only 30% of the Polish respondents have ever taken part in activities related to the development of their own business project during classes at schools or universities. Also, one third of the respondents agreed with the statement that school education inspired them to be an entrepreneur. More than 40% of the respondents in Poland agreed that formal education enabled them to run a business by giving them necessary skills and knowledge (43%) and helping them to gain an entrepreneurial attitude and initiative (45%). Half of the Polish respondents claimed that school education helped them to understand the role of entrepreneurship in society.

**Table 2. Structure of responses by Polish citizens in the Eurobarometer survey in 2012**

| Question/statement | Yes or total "agree" (in %) | No or total "disagree" (in %) | Don't know (do not read out) (in %) |
|---|---|---|---|
| "At school or university, have you ever taken part in any course or activity about entrepreneurship – that is turning ideas into action, developing your own projects?" | 30 | 69 | 1 |
| "My school education is helping/has helped me to develop my sense of initiative and a sort of entrepreneurial attitude" | 45 | 53 | 2 |
| "My school education is helping/has helped me to better understand the role of entrepreneurs in society" | 50 | 47 | 3 |
| "My school education is making/has made me interested in becoming an entrepreneur" | 33 | 64 | 3 |
| "My school education is giving/has given me skills and know-how to enable me to run a business" | 43 | 55 | 2 |

Source: European Commission (2012).

The data for all EU countries confirms that positive answers to the questions in the

Eurobarometer survey were most frequently given by young people between 15-24 (34% of them have participated in a course or activity about entrepreneurship). Only 9% of the respondents who finished their education under fifteen, and 19% of those who finished education between sixteen and nineteen, have participated in such courses. People who spent more time at schools and universities, or who have not graduated yet, gave positive answer more frequently (31% of those who finished their education in their twenties and 35% of those who were still studying) (European Commission 2012). As a general rule, the youngest respondents and people with higher education degrees tended to agree more frequently with the statements in Table 2.

Entrepreneurship education in Poland has not been obligatory so far, and, according to the Eurobarometer survey, the majority of Polish citizens have not participated in any courses "about" or "for" entrepreneurship during their school education.

Young people who completed their studies in recent years or those who are still studying are in a better situation – the number of entrepreneurship courses and initiatives at the tertiary level is constantly growing, and access to this kind of formation is improving.

**National Experts' Perspective**

Systems of education as part of the institutional environment of entrepreneurship are evaluated in the international Global Entrepreneurship Monitor project (GEM). Among others, the GEM project aims at answering the questions: "How does entrepreneurship contribute to economic development?" and "What drives entrepreneurship in different contexts?" (Levie *et al.,* 2014, p. 437). The data for Poland in comparison to other selected EU countries is presented below (Table 3).

The selected EU countries which in 2013 participated in the Global Entrepreneurship Monitor project have been grouped by the author into three categories according to geographical location; and the averages of national expert grades have been calculated for those three categories of countries (for each component 1-12; see Figure 2):

- **average I** is calculated for Central and Eastern European countries: Poland, the Czech Republic, Slovakia, Hungary, Lithuania, Latvia and Estonia,
- **average II** is calculated for Western European countries: Germany, France, Spain, Italy and the United Kingdom,
- **average III** is calculated for Scandinavian countries: Finland and Sweden.

Most of the institutional framework components for entrepreneurship are evaluated at a medium level, despite the physical infrastructure receiving good grades from the GEM national experts in the three groups of selected EU countries.

If we take into consideration the educational conditions (entrepreneurship education), the situation in Western as well as Central and Eastern European countries is rather unsatisfactory, especially at the basic school level. In comparison to Scandinavian countries, important discrepancies can be noticed; however, at the post-secondary school level the perceived conditions tend to be better. In the case of Poland the average national expert grade is less than 2 (1.8) for the primary and secondary school levels, and is below the average of the first group of the selected EU countries (2.4 compared to 2.8) for the post-secondary level (Table 3).

**Table 3. Institutional framework for entrepreneurship in selected EU countries in 2013 (average of GEM national expert grades; from 1 – poor to 5 – very good)**

| Country | Elements of institutional framework | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** |
| Czech Republic | 2.5 | 2.0 | 2.0 | 2.3 | 1.6 | 2.4 | 2.2 | 3.1 | 2.6 | 2.6 | 4.0 | 2.0 |
| Estonia | 2.7 | 2.5 | 3.1 | 3.3 | 2.3 | 3.0 | 2.9 | 3.0 | 3.6 | 2.5 | 4.3 | 3.5 |
| Lithuania | 2.8 | 2.4 | 2.0 | 2.6 | 2.4 | 2.8 | 2.4 | 3.5 | 4.0 | 2.5 | 4.2 | 3.0 |
| Poland | 2.7 | 2.6 | 2.1 | 2.7 | 1.8 | 2.4 | 2.1 | 3.0 | 3.8 | 2.8 | 3.6 | 2.8 |
| Latvia | 2.9 | 2.9 | 3.0 | 3.0 | 2.7 | 3.3 | 2.4 | 3.4 | 2.6 | 3.0 | 4.1 | 3.1 |
| Slovakia | 2.2 | 1.9 | 1.9 | 2.2 | 1.9 | 2.8 | 1.9 | 2.8 | 3.0 | 2.5 | 3.9 | 1.9 |
| Hungary | 2.8 | 2.3 | 1.9 | 2.3 | 1.9 | 2.8 | 2.5 | 3.4 | 3.1 | 2.7 | 3.9 | 2.6 |
| **Average I** | **2.7** | **2.4** | **2.3** | **2.6** | **2.1** | **2.8** | **2.3** | **3.2** | **3.2** | **2.7** | **4.0** | **2.7** |
| United Kingdom | 2.7 | 3.0 | 2.6 | 2.7 | 2.2 | 2.6 | 2.5 | 3.1 | 2.8 | 2.7 | 3.9 | 3.1 |
| France | 2.9 | 3.3 | 3.0 | 3.2 | 1.7 | 2.7 | 2.5 | 3.0 | 3.2 | 2.4 | 4.2 | 2.2 |
| Germany | 2.8 | 2.6 | 2.6 | 3.4 | 1.9 | 2.6 | 2.8 | 3.3 | 3.2 | 2.8 | 3.7 | 2.8 |
| Italy | 2.5 | 2.0 | 1.5 | 2.1 | 1.7 | 2.6 | 2.5 | 3.1 | 3.5 | 2.5 | 3.3 | 2.1 |
| Spain | 1.8 | 2.3 | 2.0 | 3.1 | 1.4 | 2.3 | 2.2 | 2.5 | 2.1 | 2.3 | 3.9 | 2.1 |
| **Average II** | **2.5** | **2.6** | **2.3** | **2.9** | **1.8** | **2.6** | **2.5** | **3.0** | **3.0** | **2.5** | **3.8** | **2.5** |
| Sweden | 2.3 | 2.7 | 2.5 | 2.7 | 2.3 | 2.4 | 2.4 | 3.0 | 3.4 | 2.6 | 4.2 | 3.2 |
| Finland | 2.8 | 3.3 | 3.1 | 2.9 | 2.7 | 2.9 | 3.0 | 3.5 | 2.8 | 2.9 | 4.3 | 2.9 |
| **Average III** | **2.6** | **3.0** | **2.8** | **2.8** | **2.5** | **2.7** | **2.7** | **3.3** | **3.1** | **2.8** | **4.3** | **3.1** |

Notes: 1. Entrepreneurial Finance; 2. Entrepreneurship as a relevant economic issue; 3. Taxes or regulations are either size-neutral or encourage new SMEs; 4. Government entrepreneurship programmes; **5. Entrepreneurship education at the basic school level (primary and secondary)**; **6. Entrepreneurship education at the post-secondary levels (higher education such as vocational, college, business schools, etc.)**; 7. R&D transfer; 8. Commercial and legal infrastructure; 9. Entry regulation. Market dynamics: the level of change in markets from year to year; 10. Entry regulation. Market openness: the extent to which new firms are free to enter the existing markets; 11. Physical infrastructure; 12. Cultural and social norms.
Source: adapted from (Amorós & Bosma 2014, pp. 45-47).

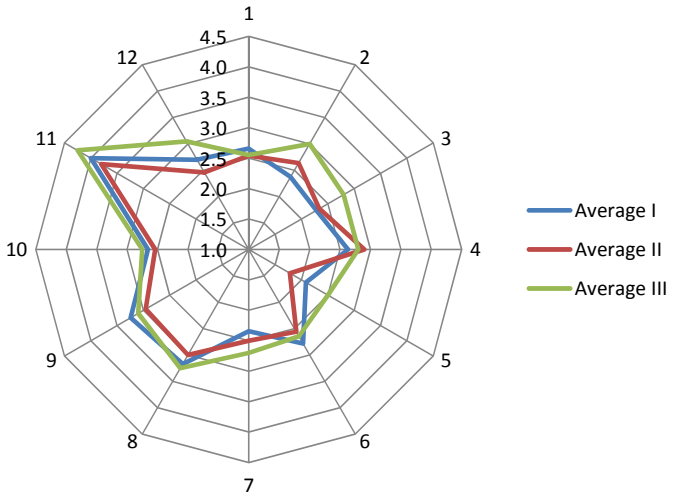


**Figure 2. Averages grades of GEM national experts in three groups of EU countries in 2013**
Notes: as for Table 3.
Source: own elaboration based on: (Amorós & Bosma 2014, pp. 45-47).

**Students' Perspective**

The results of an explorative study based on a questionnaire carried out among students of tertiary schools and universities in Poznań[1] show that most of them either agree or rather agree with the statement that the creation and development of one's own company is a prestigious activity in Polish society (72.5% of the total number of responses, *n*=211). The entrepreneurial intentions of students were more frequently expressed by those who studied Management (specialisations: Entrepreneurship in Small and Medium-sized Enterprises; Business Management). In the students' opinions, formal educational factors had less of an influence on the development of their entrepreneurial competences than, for example, family models and values gained in childhood. In the ranking of the most frequently indicated factors influencing entrepreneurial competences, the educational ones were placed in the lowest positions; however the frequency of responses increased along with the level of formal school education (Nowak 2014a, pp. 53-56; see Table 5).

Another explorative study by the author based on the same questionnaire was carried out in the academic year 2014/2015 on a sample of students from the Poznań University of Economics and Business who study at the Faculty of Administration with the specialisation "Entrepreneurship in Small and Medium-sized Enterprises" (first year master's degree studies, *n*=18). The results of the survey are summarised in Tables 4 and 5. Opinions about entrepreneurship education at the tertiary level are disparate and should be treated with a degree of caution, as nascent entrepreneurs can have different needs than those who have actually started to run their own business. Many students see the necessity for changes in the system of education in terms of entrepreneurial competences. The most frequent postulates are the following (see also Nowak, 2014b, p. 73):

- more practical activities and using the cases of real companies,
- inviting real entrepreneurs to participate in classes at the university,
- practical activities in companies (work experience),
- formal aspects of running a business (registration, bookkeeping, taxes, European funds, etc.)

The data presented in Table 5 reflect the great influence of family on students' entrepreneurial competences. The impact of formal educational factors, in the opinions of the students, is marginal; however, the situation is better if we consider the tertiary levels of education. The findings generally confirm the results of the studies carried out by the author in the academic years 2012/2013 and 2013/2014 on a larger group of students with different profiles at the Poznań University of Economics and Business and other non-economic universities in Poznań (*n*=211).

The results of the exploratory studies on the group of students from Poznań suggest great importance of family models (entrepreneurs in the family) in the development of entrepreneurial competences among the students. This is in line with the findings of

[1]The survey was carried out by the author in the academic years 2012/2013 and 2013/2014 within the project financed by funds from the Ministry of Science and Higher Education for PhD students and young researchers; the aim of which was to identify the determinants of entrepreneurial attitudes among students, especially at the Poznań University of Economics and Business in fields such as Management, Finance and Accounting, and Social Policy; but also at some non-economic tertiary schools.

Wach (2015), which show that experiences of entrepreneurship in the family have a positive influence on students' attitudes towards entrepreneurial initiatives, entrepreneurial risk and the important role of entrepreneurs in society. Formal education does not seem to play a major role in the development of entrepreneurship among young people in Poland.

**Table 4. Students' intentions and attitudes towards entrepreneurship and entrepreneurship education (*n*=18)**

| Question | Yes (in %) | No (in %) | Don't know (do not read out) (in %) |
|---|---|---|---|
| 1. Do you think you are an entrepreneurial person? | 72.2 | 5.6 | 22.2 |
| 2. Do you plan to start running your own company in the future? | 94.4 | 5.6 | 0.0 |
| **Statement** | **Total yes or rather "agree" (in %)** | **Total no or rather "disagree" (in %)** | **Neutral (in %)** |
| 3. The creation and development of one's own company is a prestigious activity in Polish society | 66.6 | 16.7 | 16.7 |
| 4. The courses taught during university studies (transmitted knowledge and methods) help you to develop your entrepreneurial competences | 38.9 | 33.3 | 27.8 |
| 5. During your university studies you gain the knowledge and abilities needed in the process of creating and developing your own company | 16.7 | 27.8 | 55.5 |
| 6. Do you see any necessity for changes in the system of education in terms of entrepreneurial competences? | 77.8 | 0.0 | 22.2 |

Source: own study.

The evaluation of the methods used during university studies and the perceived value of the knowledge transmitted for the development of entrepreneurial competences in the investigated group of students (*n*=18) was rather disparate. However, nearly 40% of the students strongly agreed or rather agreed with the statement 4 (Table 4). According to the answers of that group of students, the situation was more unfavourable with regard to the perceived value of the knowledge and abilities for the process of creating and developing their own companies (only 16.7% of the students strongly or rather agreed, and most of them gave a neutral response). On the basis of these results, it should be investigated whether the educational system in general does not respond adequately to the students' needs, or if nascent entrepreneurs have different requirements and expectations than actual entrepreneurs. The above results are in line with the findings of Gull and Fayolle (2015), who indicated that students of colleges of technology in Punjab were generally not satisfied with the effect of education on their entrepreneurial skills, and they suggest the development of new content as well as training courses for teachers to enhance the use of more entrepreneurial methods (Gull & Fayolle, 2015).

**Table 5. Frequency of responses for factors determining the entrepreneurial competences of students (n=18) in comparison to the previous study by the author (*n*=211)**

| Factors | Number of responses (multiple choice) | |
|---|---|---|
| | Academic year 2014/2015 (*n*=18) | Academic years 2012/2013 and 2013/2014 (*n*=211) |
| Character and values gained in childhood | 5 | 110 |
| Family models (entrepreneurship in the family) | 11 | 91 |
| Imitating entrepreneurial people/entrepreneurs who have succeeded | 9 | 83 |
| Self-development (newspapers, books, the Internet) | 11 | 81 |
| An example of an entrepreneur in the near environment | 5 | 65 |
| Cultural models (traditions, social norms, etc.) | 1 | 58 |
| Additional courses and formation | 4 | 28 |
| **Attitudes and models of behaviour learnt at tertiary level school or university** | **5** | **44** |
| **Attitudes and models of behaviour learnt at secondary school** | **1** | **22** |
| **Attitudes and models of behaviour learnt at primary school** | **0** | **6** |

Source: own study.

The above results do not confirm the positive impact of formal education on Polish students' intentions and entrepreneurial skills as clearly as was the case in the study by Jones et al. (2008). However, the findings of the present study refer rather to the general role of education, also including past experiences, and do not concentrate on the specific content or methods used during the entrepreneurial course offered at the Poznań University of Economics and Business. To explore the situation more fully, a new, more extensive study should be designed.

After the analysis of the results, the hypotheses of the present study were confirmed.

## Broader Perspective Proposal

The data presented in the article reflects the evaluations taken from different perspectives; e.g. students and national experts. The impact of the educational system on entrepreneurship development should, however, be analysed by adopting a broader perspective.

First of all, the impact of education, whether formal or informal, on personal abilities, knowledge and creativity ought to be mentioned. Personal development depends on the cultural norms of society, the influence of family and friends, as well as on the general rules of the formal educational system at the primary, secondary and tertiary school levels (Table 6). The various educational experiences of individuals during their lives shape their capacity to undertake different activities in the future, especially those

relating to future employment. From this perspective, the educational environment plays an important role in the decision to create new companies by people from different educational backgrounds.

**Table 6. Areas and character of educational environment influences on entrepreneurial activities**

| Elements of educational environment | **Character of impact** on entrepreneurial activities | |
|---|---|---|
| | **formal/informal** | **direct/indirect** |
| Social rules and perceptions towards entrepreneurship, family relationships and traditions | informal | indirect or direct |
| Level of formal education (primary, secondary, university graduates), general knowledge acquisition and personal development | formal | indirect |
| Specialist knowledge acquisition and formal qualifications (diplomas, certificates, etc.) | formal | indirect or direct |
| Transfer and commercialisation of knowledge and technology (academic entrepreneurship, creation of spin-off and spin-out companies) | formal | direct |
| University infrastructure (technological parks and incubators) | formal | direct |
| Other forms of cooperation between universities and companies e.g. in the field of innovativeness | formal or informal | direct |
| Entrepreneurship education programmes within the education system/public policy (courses about entrepreneurship and for developing entrepreneurship) | formal | direct or indirect |
| Courses financed from public funds (European, national, regional), offered by different institutions to develop those abilities and knowledge relating to company creation | formal | direct |

Source: own elaboration.

The influence of the educational factors mentioned above on entrepreneurship development is somewhat indirect, and because of this it is not easy to measure their impact on graduates undertaking entrepreneurial activities. When trying to evaluate this, various indicators could be taken into consideration, for example: the rates of youth unemployment; the rates of unemployment among university graduates; the rates of unemployment among those with higher education degrees; entrepreneurial intentions of students/graduates; the motivation of students/graduates to create own company; students' opinions about formal education (surveys, in depth interviews, etc.); the number of entrepreneurship courses at universities; the number of students who attend entrepreneurship courses at universities; the number of participants in entrepreneurship courses co-financed from public funds.

To evaluate any direct impact on entrepreneurial development by those educational institutions which form part of the institutional environment, other indicators could be adopted; for example: the number of newly created or existing companies established by students; the number of newly created or existing companies established by university graduates; the number of newly created or existing companies established by people

with higher education degrees, based on specific qualifications and certificates; the number of spin-off/spin-out companies; the number of companies located in university technological parks or incubators; the percentage of firms which declare collaboration with universities; the number of firms created in programmes financed from public funds (European, national, regional) in collaboration with universities.

## CONCLUSIONS

The impact of the higher education system on entrepreneurship development is not limited to effects such as the creation of new companies by students and graduates. Poland belongs to a group of countries with a high number of students, in absolute and relative terms (Sedlak & Sedlak, 2013), so the transmission of entrepreneurial values through the formal educational system could have a significant effect on the development of entrepreneurship (Paltasingh, 2012) and building a knowledge-based economy.

Moreover, evaluating the impact of the formal education system should not be limited only to entrepreneurship education, which helps to develop the specific entrepreneurial skills needed in the process of company creation. Also, the general and specialist knowledge acquired at schools and universities, as well as networking and trust building, are seen as factors which can determine the success and survival of companies.

The results of the evaluation by GEM experts still reflect the rather poor or average opinion about entrepreneurship education as a component of the institutional environment for entrepreneurship development. In particular, more attention should be given to the quality of entrepreneurship education at the primary and secondary levels.

The evaluation by students of entrepreneurship education at the tertiary level presented in this article cannot be generalised. This small sample exploratory study can be treated as a kind of pilot study, which in the future could be developed by using more rigorous and sophisticated methods of analysis and by investigating a larger sample of students. Moreover, a study based on the same questionnaire could be carried out at the end of the entrepreneurship course among the same group of students in order to show the changes and evolution of the students' perceptions of formal education at the higher school level (Jones *et al.,* 2008).

The situation in Poland in this field is constantly changing and more should be done to recognize the real impact of the formal education system on entrepreneurship development. The role of the formal education system, especially at the tertiary level, is probably underestimated, and has great potential to influence the entrepreneurial attitudes and behaviour of students and graduates. For that reason, a more comprehensive framework for studying the role of the higher education system in the development of entrepreneurship in Poland should be considered in the future studies.

Future studies could explore more deeply not only entrepreneurial intentions, but also the special needs of prospective young entrepreneurs; which can be addressed through using new tools and methods during entrepreneurship courses, as well as other lectures and classes not directly dedicated to this issue. It will also be important to investigate how students perceive the value of formal education in general, and of entrepreneurship education in particular, after moving from the nascent entrepreneur phase to the stage of creating their own companies. Finally, to obtain a more global picture as to the impact of the educational system on entrepreneurship development, more factors

should be taken into consideration in future studies (e.g. the number of years of formal education, family educational background, additional university facilities, type of education received (general or specialist knowledge, etc.)).

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