SILESIAN UNIVERSITY OF TECHNOLOGY PUBLISHING HOUSE

SCIENTIFIC PAPERS OF SILESIAN UNIVERSITY OF TECHNOLOGY ORGANIZATION AND MANAGEMENT SERIES NO. 173

2023

THE VIEWS OF UNIVERSITY STUDENTS ON DEVELOPING COMPETENCES AND ENTREPRENEURIAL ATTITUDES AMONG STUDENTS OF SECONDARY SCHOOLS IN POLAND

Anna KOMARNICKA

Bydgoszcz University of Science and Technology, Faculty of Management, Department of Innovative Organization Management; anna.komarnicka@pbs.edu.pl, ORCID: 0000-0003-1705-1376

Purpose: The aim of the article is to analyse the conditions and possibilities of using entrepreneurship education in secondary schools in the context of stimulating the development of entrepreneurial skills and competences among students. What is more, the researchers examined the impact of entrepreneurship education provided at school to create the potential and acquire the skills required to create a new business venture and company management by university students.

Design/methodology/approach: To achieve this goal, a quantitative method was used, based on a survey conducted with the participation of 542 students admitted to the first year of studies in the academic year 2021/2022 at the Bydgoszcz University of Science and Technology.

Findings: The results of the conducted research prove that every fourth graduate, regardless of whether they graduated from a Technical College or a General High School, assesses the education in the field of entrepreneurship, its potential to strengthen their predispositions and acquiring the skills required to lead own company, as average.

Research limitations/implications: The research included only first-year students of the university, which does not constitute the basis for generalizing the obtained results for students studying in other academic centres. Formulating conclusions should be limited to the test sample only.

Practical implications: The results of the study may be of interest to scientists and practitioners, examining the assessment and development of entrepreneurial competences among students of high schools and universities. In addition, this study can be helpful to employers who want to find out more about entrepreneurial attitudes of university graduates.

Originality/value: This study may contribute to the debate on the role of education in shaping entrepreneurial attitudes and intentions among secondary school students.

Keywords: education system, entrepreneurship education, entrepreneurial competences, entrepreneurial attitudes, youth entrepreneurship.

Category of the paper: research paper.

1. Introduction

Assessing the development of students' entrepreneurial competences, skills and intentions, and the relationship between basic entrepreneurial competences that must be developed in an educational context is currently becoming an increasingly important subject of interest, highlighted by many scientists and researchers around the world (Solesvik, 2019; Pesha, Shavrovskaya, Caha, 2021; Mazurkiewicz, 2020; Soomro, Memon, Shah, 2020; Bretones, Radrigán, 2019; Zhou, Xu, 2012; RezaeiZadeh et al., 2017; Gano, Łuczka, 2020; Czyżewska, 2018; Czyżewska, Kozioł, 2020; Gürol, Atsan, 2006; Arranz, Arroyabe, Fdez. de Arroyabe, 2019; Boldureanu et al., 2020; Hasan, Guampe, Maruf, 2019; Al Mamun, Nawi, Shamsudin, 2016; Kulawiak, 2021; Borgiasz-Stepaniuk, 2019; Kowalewski, 2018; Piecuch, Szczygieł, Lozinsky, 2019; Ismail, Zain, 2015; Nowak, 2018). In addition, there is a large number of studies relating to the assessment of the effectiveness of entrepreneurship education programs and publications presenting the results of research on the impact of entrepreneurship education on strengthening entrepreneurial attitudes, competences and intentions among students. These issues have been addressed, in addition to those previously mentioned, by authors such as Din, Anuar and Usman (2016), Sánchez (2011), Alharbi, Almahdi and Mosbah (2018), Vodă and Florea (2019), Hattab (2014), Iqbal et al. (2022), Remeikiene, Startiene and Dumciuviene (2013), Fragoso, Rocha-Junior and Xavier (2020), Izquierdo and Deschoolmeester (2010).

Entrepreneurship education is an emerging direction for the development of the entrepreneurial mindset around the world (Iqbal et al., 2022). It is a key factor in the development of a favourable approach to undertaking new ventures. Entrepreneurship education influences the entrepreneurial attitudes and behaviours of individuals, and "is known as a crucial predictor of students' entrepreneurial intention (EI)" (Soomro, Memon, Shah, 2020, p. 1). It can be defined as a form of education aimed at attracting people capable of setting up a new business (Vodă and Florea, 2019). Entrepreneurial education is treated as "shaping attitudes and skills as well as transferring knowledge in the field of entrepreneurship in order to develop human resources and their entrepreneurial activities both on the labour market and in everyday life" (Wronowska, 2020, p. 15). Entrepreneurship education should be geared towards creativity, multi-disciplinary process-oriented approaches, and theory-based practical application. (Plumly et al., 2008, p. 19). The primary goal of entrepreneurship education in European universities is "to develop entrepreneurial capacities and mindsets that support everyone in day-to-day life at home and in society and provide a foundation for entrepreneurs establishing a social or commercial activity" (Zhou, Xu, 2012, p. 83). Entrepreneurial education can have the impact on personality entrepreneurial traits through: (1) Self-efficiency, (2) Risk taking, (3) Proactiveness or the propensity to act, (4) Behavioural control, (5) Need for achievement, (6) Internal locus of control, (7) Attitude towards business (Remeikiene, Startiene, Dumciuviene, 2013, pp. 302-303).

As rightly emphasized by Din, Anuar and Usman (2016), Borgiasz-Stepaniuk (2019), and Urbaniec (2016), entrepreneurial education and shaping entrepreneurial attitudes is a complex process that should be implemented at every stage of education, starting from primary school. The basics of entrepreneurship should be introduced to get students interested in this field from a very young age. In addition, motivation and stimulating young people to act, by creating specific conditions, especially within the education system, will develop their entrepreneurial qualities and behaviour (Mazurkiewicz, 2020). Similar education should be continued at the secondary school level and at the higher education level, where the learning process will include the acquisition of knowledge and skills that can be used by entrepreneurial graduates in practice to start a business. The entrepreneurial intention of university students refers to "a conscious awareness and conviction by an individual that they intend to set up a new business venture and plan to do so" (Arranz, Arroyabe, Fdez. de Arroyabe, 2019, p. 2015). One of the most important effects of education in the field of entrepreneurship is "increasing the level of entrepreneurial intentions of the young generation, understood as the desire to start and run their own business" (Kaliszczak, Sieradzka, 2020, p. 100).

2. Entrepreneurial Competencies

Entrepreneurial competencies are seen as crucial for business development and success, and understanding the nature and role of these competencies can be important in practice (Al Mamun, Nawi, Shamsudin, 2016). The development of entrepreneurial competences is increasingly perceived as important for supporting entrepreneurship (RezaeiZadeh et al., 2017). In relation to entrepreneurship, the competences are defined as knowledge, skills, attitudes, and behaviours that affect the willingness and ability to create new value as part of the business activity (Urbaniec, 2016; Hasan, Guampe, Maruf, 2019). "The competency approach applied to an entrepreneurial context can be a baseline standard for creating a new venture" (Fragoso, Rocha-Junior, Xavier, 2020, p. 3). Iqbal et al. (2022) defined entrepreneurial competencies as "the set of behavioural predispositions that influence students' abilities to succeed in an entrepreneurial venture" (Iqbal et al., 2022). Entrepreneurial competencies is "the overall capability of the entrepreneur to execute a job role successfully" (Al Mamun, Nawi, Shamsudin, 2016). Entrepreneurial competences have also been identified as a specific group of skills that is important for the successful development of entrepreneurship (Al Mamun, Nawi, Shamsudin, 2016). Mitchelmore and Rowley classified entrepreneurial competences, dividing them into three main areas: Personality, Behavioural and Managerial (Czyżewska, Kozioł, 2020, p. 48). (Table 1).

Entrepreneur competence							
Personality (social)	Behavioural (personal)	Managerial					
 confidence a sense of locus of control dealing with difficulties tolerance care for high quality self-presentation skills self-assessment skills 	 assertiveness willingness to take risks initiative creativity the need for autonomy the ability to seek and seize opportunities the ability to take risks vitality and energy will to success persistence 	 interpersonal communication the ability to formulate goals ability to communicate persuasiveness the ability to search for information ability to solve problems systematic planning skills technical know-how 					

Table 1.

Entrenreneur	competence	classi	fication
Етпертенент	competence	ciussi	JICUIION

Source: Czyżewska, Kozioł, 2020, p. 48.

In turn, other authors maintain that "entrepreneurial competencies have been understood in three broad ways, by reference to: (1) personal attributes/traits, that is, a distinguishing quality or feature regarded as a characteristic or inherent part of someone; (2) skills/abilities, that is, the ability and expertise to do something well; and (3) knowledge/experience, including, facts, information, and talent acquired through education; practical contact with and observation of facts/events; the theoretical or practical understanding of a subject" (RezaeiZadeh et al., 2017, p. 37).

The literature describes different types of entrepreneurial competences that can be strengthened through entrepreneurship curricula at different stages of education. Previous studies have highlighted different entrepreneurial competences in the context of different sectors, regions and countries (RezaeiZadeh et al., 2017). Each of these competencies is important for fostering an entrepreneurial mindset among pupils and students, but with regard to the issue of classifying entrepreneurial competencies as the basis for their development and assessment during studies, there is still no well-established and widely accepted list of competencies (Pesha, Shavrovskaya, Caha, 2021). However, as RezaeiZadeh et al. (2017) points out, there is also a lack of consensus regarding the perceived importance of core entrepreneurial competences and their interdependence among students, academics and entrepreneurs.

3. Methodology of empirical research

The aim of the study was to assess students' opinion on activities undertaken by secondary schools, including Technical Colleges, in the field of education and development of skills and competences in various areas related to their interests as well as competences which may become useful in the future in improvement and professional development plans. In addition,

it was particularly important to obtain students' views on high school and Technical Colleges' initiatives regarding stimulating the development of entrepreneurial attitudes and competences. An assessment was also made of the impact of education in the field of entrepreneurship carried out in secondary school on the development of predispositions and the acquisition of skills necessary to run one's own business in the future by university students.

The study was conducted from October to November 2021 at the University of Technology and Life Sciences in Bydgoszcz among a total of 542 the first year students. The research instrument was a questionnaire and data was collected by means of an online survey, conducted electronically, using the Google Forms tool.

The article presents selected aspects of the conducted research, which, among others, contain answers to the following research questions: (1) what role does the entrepreneurship curriculum play on developing entrepreneurial competences and intentions of high school students, and (2) to what extent did education in the field of entrepreneurship implemented at the secondary school influence the development of students' skills and competences in the following areas: (1) choosing a profession, (2) taking up a job, (3) self-employment - setting up your own business, (4) communicating in a foreign language, (5) ICT skills, (6) developing passions and interests, (7) teamwork, (8) self-presentation and public speaking, (9) supporting others, (10) performing various social roles. Basically, it was important to know what entrepreneurial competences and skills the respondents acquired during their secondary school education, and to assess specific predispositions in terms of skills and features necessary to run their own business.

4. Research results

The subject of the study was a group of students who enrolled on the first year of study in the academic year 2021/2022 at the University of Technology and Life Sciences. 542 students participated directly in the study, including 308 women (56.8%) and 234 men (43.2%).

The next question, included in the data section, was aimed at determining the type of upper secondary school completed by the respondents. The vast majority of the respondents are Technical College graduates. This type of school was completed by 328 people, which is 60.5% of all respondents. The next group are people who graduated from General Secondary School (209 respondents, 38.6%), and only 5 students (0.9%) participating in the study are graduates of a different type of secondary school. From the analysis of the surveyed group, however, one can observe a difference in the type of school completed, due to the gender of the respondents. Among the surveyed women, half (50.6%) graduated from General Secondary School, and 48.4% are graduates of Technical Colleges. In the case of men, the vast majority graduated from a Technical College (76.5%) and every fifth male is a graduate of a General

Secondary School (22.6%). The smallest group, both among women and men, is represented by people who graduated from a different type of secondary school (Figure 1).



Figure 1. Secondary school type the respondents graduated from and their gender [%]. Source: own research and study.

The next question allowed to determine the place of residence of the respondents. Half of the women participating in the study (52.6%) live in rural areas. Nearly 23.0% of female students who enrolled on the first year of studies in the academic year 2021/2022 at the University of Technology and Life Sciences live in towns with over 200,000 inhabitants. What regards the men, the dominant group are also those who live in rural areas (38.9%) or in cities with the population of more than 200,000 inhabitants (36.8%). On the other hand, more than one in ten women (12.7%) and men (14.5%) live in cities with up to 50,000 residents (Figure 2).



Figure 2. Place of residence of respondents broken down by gender [%]. Source: own research and study.

The analysis of the answers according to the gender structure shows that the majority of men who took part in the study were first-year students of the Faculty of Telecommunications, Computer Science and Electrical Engineering (97 males, 41.5%). Almost every fifth male student is a student of the Faculty of Civil Engineering, Architecture and Environmental Engineering (41 students, 17.5%) or the Faculty of Mechanical Engineering (41 students, 17.5%). In turn, the dominant Faculty, where nearly 30.0% of women study at the University

of Technology and Life Sciences, is the Faculty of Animal Breeding and Biology. Other faculties, relatively often chosen by females participating in the survey, are the Faculty of Civil Engineering, Architecture and Environmental Engineering (69 women, 22.4%) and the Faculty of Management (69 women, 18.8%) (Table 2).

Table 2.

List of departments the respondents enrolled on in the academic year 2021/2022 broken down by their gender[N][%]

			Gender			
No.	Name of Faculty	Female		Male		
		Ν	[%]	Ν	[%]	
1.	Construction, Architecture and Civil Engineering	69	22.4%	41	17.5%	
2.	Construction, Architecture and Civil Engineering;	0	0.0%	1	0.4%	
	Mechanical Engineering	0	0.0%	1	0.4%	
3.	Construction, Architecture and Civil Engineering;	1	0.2%	1	0.4%	
	Management	1	0.5%	1		
4.	Animal Breeding and Biology	84	27.3%	12	5.1%	
5.	Animal Breeding and Biology; Construction, Architecture	2	0.6%	0	0.0%	
	and Civil Engineering	2	0.0%			
6.	Animal Breeding and Biology; Construction, Architecture	1	0.3%	0	0.0%	
	and Civil Engineering; Management	1	0.3%	0	0.0%	
7.	Animal Breeding and Biology; Mechanical Engineering		0.0%	1	0.4%	
8.	Animal Breeding and Biology; Management	2	0.6%	0	0.0%	
9.	Mechanical Engineering	32	10.4%	41	17.5%	
10.	Mechanical Engineering; Management	0	0.0%	1	0.4%	
11.	Agriculture and Biotechnology	20	6.5%	8	3.4%	
12.	Chemical Engineering	20	6.5%	8	3.4%	
13.	Computer Science and Electrical Engineering		6.2%	97	41.5%	
14.	Computer Science and Electrical Engineering;	0	0.0%	1	0.49/	
	hanical Engineering 0		0.0%	1	0.4%	
15.	Management	58	18.8%	22	9.4%	
Tota		308	100.0%	234	100.0%	

Source: own research and study.

The first question the respondents were asked allowed to assess the level of competences in selected areas of students' interests and plans. On one hand, the first-year students highly regarded the activities undertaken by the secondary schools or Technical Colleges they attended in terms of obtaining the following qualifications: supporting other people (43.4%), teamwork (38.2%) and communicating in a foreign language (37.3%). On the other hand, the same students assess the following activities as low or very low in terms of developing their competences in the following areas of self-employment: setting up their own business (56.3%), skills in the field of information and - communication (50.9%) and self-presentation and public speaking (47.0%). According to more than one in four of secondary school graduates (29.0%), secondary schools perform only an average job preparing them for the ability to perform various social roles. It happens sometimes that secondary school students are taught and develop other important competences and skills such as: planning and accounting, working in difficult conditions or being resourceful and independent but these are only individual cases, indicated by a small percentage of respondents (2.8%). The structure of the answers given by all respondents in total is shown in Table 3.

3	5	4
~	~	

Table 3.

The value and levels of secondary school education for achieving respondents' competences and goals [%]

Category	Very high	High	Average	Low	Very low
Choosing a job	10.1%	20.3%	30.4%	18.5%	20.7%
Starting work	9.6%	19.7%	30.1%	19.7%	20.8%
Self-employment & starting own business	7.4%	10.1%	26.2%	24.5%	31.7%
Communication in a foreign language	13.1%	24.2%	37.5%	14.9%	10.3%
ICT skills	5.5%	8.9%	34.7%	21.8%	29.2%
Pursuing hobbies and interests	11.8%	17.2%	25.1%	21.2%	24.7%
Teamwork	10.9%	27.3%	31.0%	17.5%	13.3%
Self-presentation and public address	9.0%	13.8%	30.1%	22.3%	24.7%
Supporting others	16.1%	27.3%	28.6%	12.0%	16.1%
Performing different social functions	11.3%	21.6%	29.0%	18.3%	19.9%
Others (specify which)	1.5%	1.3%	0.0%	0.0%	0.0%

Source: own research and study (N = 542).

Further analysis of the research results indicates that the level of education provided by the secondary school in terms of competences for selected areas of students' interests and plans differs significantly among secondary schools. Graduates of General Secondary Schools highly valued preparation in the field of communication in a foreign language. Such an answer was given by 45.0% of the respondents. Secondly, the participants also recognized the education of their competences necessary to support other people as high (41.1%). The third, best rated area is the preparation of secondary school to work in a team (35.4%). On the other hand, areas with low to the lowest scores are activities undertaken by the secondary school in the field of vocational preparation in the following areas: self-employment - setting up your own business (69.9%), (61.2%), taking up a job (57.4%), and developing passions and interests (54.5%). (Figure 3).

Graduates of Technical Colleges, on the other hand, evaluate the education of skills in supporting others as the highest (44.2%). Furthermore, they point to very good preparation by the school for the profession of their choice (42.1%), acquisition of teamwork skills (39.9%) and those necessary to take up a job in the future (39.0%). Unlike students who graduated from secondary schools; most graduates agree that a General Secondary School does not allow them to acquire a sufficient and satisfactory degree of competence in choosing a profession or taking up a job. Every second respondent, who graduated from a Technical College, evaluates the activities undertaken by secondary school as very low or low in terms of developing their skills in self-presentation and public speaking. Nearly half of the graduates of technical upper secondary schools also poorly assess the activities undertaken by the school in the field of professional preparation in the following areas: self-employment - setting up own business (47.6%), and ICT skills (46.6%). (Figure 4).



Figure 3. Competences and skills provided by secondary schools, and their role in achieving life goals according to first-year students who graduated from General Secondary Schools [%].



Source: own research and study.

Figure 4. Competences and skills provided by secondary schools, and their role in achieving life goals according to first-year students who graduated from Technical College [%].

Source: own research and study.

Taking into account the degree of predispositions, features and skills necessary to run one's own business taught by the secondary school, the analysis of the research results shows that, according to more than one in four respondents, a General Secondary School, technical school or other school helped them to a very good degree develop features such as: diligence/accuracy (27.5%) and the ability to work under time pressure (27.1%). Every fifth respondent appreciated the efforts of the secondary school in enabling the acquisition of other predispositions, features and skills that may be conducive to running your own business in the future, including: openness to new experiences, independence in decision-making, creativity, ingenuity and communicativeness. On the other hand, nearly 25.0% of all respondents believe that secondary school allowed the development of features and predispositions, such as courage, selfconfidence, and the ability to negotiate or positive thinking to a small or very small degree. It is worth pointing out that out of a group of five hundred and forty-two respondents, more than every tenth first-year student declares that he has not acquired as many as eight out of twelve predispositions in terms of skills and features necessary to run his own business, listed in the cafeteria of answers: courage, self-confidence, creativity, negotiation skills, team management skills, independence in decision-making, lack of fear of taking risks, determination, as well as openness to new experiences. The structure of the answers given by all respondents in total is presented in Table 4.

Table 4.

Category	Very	Good	Average	Poor	Very	Not
Category	good	Average	1 001	poor	gained	
Courage	10.7%	19.4%	26.2%	13.8%	12.2%	17.7%
Self-confidence	10.7%	22.3%	25.6%	14.6%	10.3%	16.4%
Being approachable	20.1%	27.3%	22.7%	12.0%	8.1%	9.8%
Creativity	20.7%	26.6%	23.2%	11.3%	7.4%	10.9%
Negotiating skills	13.7%	21.6%	24.2%	16.1%	10.0%	14.6%
Team management skills	15.3%	25.1%	21.4%	13.8%	10.7%	13.7%
Ability to make own decisions	22.9%	27.9%	23.4%	8.5%	7.2%	10.1%
Low anxiety levels when taking risk	10.3%	20.1%	27.5%	15.1%	11.3%	15.7%
Determination (positive thinking)	15.9%	25.1%	20.5%	12.4%	11.6%	14.6%
Being open to new experiences	21.6%	25.5%	21.2%	12.0%	9.0%	10.7%
Attention to detail	27.5%	25.5%	20.3%	11.8%	6.1%	8.9%
Working under stress	27.1%	27.1%	18.6%	13.1%	6.1%	7.9%
Other	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%

Competences and skills provided by secondary schools, and their role in running own business according to all respondents [%]

Source: own research and study (N = 542).

A thorough analysis of the collected data shows that the degree of predispositions, features and skills necessary to run one's own company as taught by the secondary school, differentiates to a large extent according to the type of school completed by the respondents. The research shows that Technical College graduates better assess all predispositions, features and skills needed to run their own business, as compared to respondents who graduated from General Secondary Schools. Every second first-year student who graduated from a Technical College evaluates the school's potential and possibility of developing their entrepreneurial skills and competences such as: working under time pressure (56.4%), diligence/accuracy (55.8%), independence in making decisions (54.6%), openness to new experiences (54.3%), creativity/ingenuity (51.8%), and communicativeness (49.1%) as good or very good. The same entrepreneurial skills and competences acquired at the stage of secondary school education are rarely rated so highly by graduates of General Secondary Schools. For example, 35.9% of General Secondary School graduates assess the development of openness to new experiences at the stage of education in secondary school as very good or good, which is nearly 19.0% less than Technical College graduates. It is similar in the case of such a feature as creativity/ingenuity, as 12.1% fewer graduates of General Secondary Schools rate its development so highly, compared to graduates of Technical Colleges. The highest percentage of General Secondary School graduates assesses the degree of education of their entrepreneurial skills and competences as the lowest, i.e. self-confidence (30.1%) and courage (29.2%), and over 20.0% declare that they have not acquired these features at all, during their time as secondary school. Less frequently, the same aspects of entrepreneurship are assessed so poorly by graduates of Technical Colleges. Nearly 40.0% of them evaluate the activities of the school in building their self-confidence as very good or good, and 36.0% appreciate their role in strengthening courage. On the other hand, in the case of respondents who graduated from a Technical College, every fourth of them assesses poorly or very poorly the degree of preparation by the school to run their own business venture, in terms of acquiring such characteristics and predispositions as: lack of fear of taking risks (25.6%) and negotiation skills (25.0%). It should be emphasized, however, that according to nearly every fourth graduate, regardless of whether they graduated from a Technical College or a general high school, secondary schools enable the acquisition of predispositions in terms of skills and features necessary to run one's own business only to an average degree. The skills in question are: (1) courage, (2) self-confidence, (3) communicativeness, (4) creativity, ingenuity, (5) negotiation skills, (6) team management skills, (7) independence in decision-making, (8) lack of fear of taking risks, (9) determination (positive thinking), (10) openness to new experiences, (11) diligence/ accuracy, (12) working under time pressure. The structure of respondents' answers broken down by type of school is presented in Figure 5 and Figure 6.



Figure 5. Competences and skills provided by General Secondary School, and their role in running own business according to first-year students who graduated from General Secondary Schools [%].

Source: own research and study.



Figure 6. Competences and skills provided by General Secondary School, and their role in running own business according to first-year students who graduated from Technical Colleges [%].

Source: own research and study.

Summary

In the summary of this article, the main purpose of which was to analyse the conditions and possibilities of using entrepreneurship education in secondary schools, in the context of stimulating the development of skills and entrepreneurial competences among university students, the following conclusions can be drawn:

- 1. Every fourth graduate, regardless of whether they graduated from a Technical College or a General High School, evaluates their education only as average in the field of entrepreneurship, in terms of strengthening his predispositions, and acquiring skills required to run their own business.
- 2. Secondary schools, in the opinion of more than every fourth of their graduates, prepare them to perform various social roles to an average degree (29.0%).
- 3. Most of the first-year students highly or very highly evaluate the following activities and competences taught and undertaken by the secondary school they attended: supporting others (43.4%), teamwork (38.2%) and communicating in a foreign language (37.3%).
- 4. Nearly 60.0% of the first-year students evaluate entrepreneurship education at the secondary school level as very low or low, in terms of developing their competences in the area of self-employment.
- 5. Every second respondent assesses their skills in the field of information and communication technologies (50.9%) and self-presentation and public speaking (47.0%) as very low or low, which may indicate the low effectiveness of the entrepreneurship education program implemented in secondary schools in this regard.
- 6. Every second first-year student who graduated from a Technical College, evaluates the possibility of developing their entrepreneurial skills and competences at the stage of education in secondary school, such as: work under time pressure, diligence/accuracy, independence in making decisions, openness to new experiences, creativity/ingenuity, and communicativeness as good or very good. The same entrepreneurial skills and competences acquired at the stage of secondary school education are rarely rated so highly by graduates of General Secondary Schools.
- 7. The highest percentage of General Secondary School graduates assess the development of the following aspects of entrepreneurship as the lowest: self-confidence (30.1%) and courage (29.2%), and over 20.0% declare that they did not acquire these features at all at the level of their education in high school.
- 8. Every fourth respondent who graduated from a Technical College evaluates the degree of implementation of the entrepreneurship curriculum in secondary school as poor or very poor, in terms of acquiring the following features and predispositions: no fear of taking risks and negotiation skills; conducive to entrepreneurial activities.

References

- 1. Al Mamun, A., Nawi, N.B.C., Shamsudin, S.F.F.B. (2016). Examining the effects of entrepreneurial competencies on students' entrepreneurial intention. *Mediterranean Journal of Social Sciences*, 7(2), pp. 119-127.
- 2. Alharbi, J., Almahdi, H., Mosbah, A. (2018). The impact of entrepreneurship education programs (EEPs) on the entrepreneurial attitudes among higher education students. *International Journal of Management, Economics and Social Sciences*, *7*(*3*), pp. 245-271.
- 3. Arranz, N., Arroyabe, M.F., Fdez. de Arroyabe, J.C. (2019). Entrepreneurial intention and obstacles of undergraduate students: the case of the universities of Andalusia. *Studies in Higher Education*, 44(11), pp. 2011-2024.
- 4. Boldureanu, G. et al. (2020). Entrepreneurship education through successful entrepreneurial models in higher education institutions. *Sustainability*, *12*(*3*), pp. 1-33.
- 5. Borgiasz-Stepaniuk, M. (2019). Postawy przedsiębiorcze wśród młodzieży. *Przedsiębiorczość-Edukacja*, *15*(1), pp. 47-60.
- 6. Bretones, F.D., Radrigán, M. (2019). Attitudes to entrepreneurship: the case of Chilean and Spanish university students. *CIRIEC-España, Revista de Economía Pública, Social y Cooperativa*, 94, pp. 11-30.
- Czyżewska, M. (2018). Uwarunkowania rozwoju przedsiębiorczości studenckiej na podstawie badań empirycznych. *Studia i Prace Kolegium Zarządzania i Finansów*, 160, pp. 29-44.
- 8. Czyżewska, M., Kozioł, K. (2020). Diagnoza poziomu kompetencji przedsiębiorczych studentów wybranych uczelni według metodologii EntreComp. *Przedsiębiorczość-Edukacja*, *16*(*1*), pp. 45-61.
- 9. Din, B.H., Anuar, A.R., Usman, M. (2016). The effectiveness of the entrepreneurship education program in upgrading entrepreneurial skills among public university students. *Procedia-Social and Behavioral Sciences*, 224, pp. 117-123.
- 10. *Entrepreneurship 2020 Action Plan* (2013). European Economic and Social Committee. Available online: https://www.eesc.europa.eu/en/our-work/opinions-information-reports/ opinions/entrepreneurship-2020-action-plan, 30.11. 2022.
- 11. Fragoso, R., Rocha-Junior, W., Xavier, A. (2020). Determinant factors of entrepreneurial intention among university students in Brazil and Portugal. *Journal of Small Business & Entrepreneurship*, *32*(*1*), pp. 33-57.
- 12. Gano, E., Łuczka, T. (2020). Determinanty intencji przedsiębiorczych studentów. *Przedsiębiorczość-Edukacja*, *16(1)*, pp. 31-44.
- Gürol, Y., Atsan, N. (2006). Entrepreneurial characteristics amongst university students: Some insights for entrepreneurship education and training in Turkey. *Education+ training*, pp. 25-42.

- 14. Hasan, M., Guampe, F.A., Maruf, M.I. (2019). Entrepreneurship learning, positive psychological capital and entrepreneur competence of students: a research study. *Entrepreneurship and Sustainability Issues*, 7(1), pp. 425-437.
- 15. Hattab, H.W. (2014). Impact of entrepreneurship education on entrepreneurial intentions of university students in Egypt. *The Journal of Entrepreneurship*, *23*(*1*), pp. 1-18.
- 16. Iqbal, J. et al. (2022). Impact of entrepreneurial curriculum on entrepreneurial competencies among students: The mediating role of the campus learning environment in higher education. *Frontiers in psychology*, *13*.
- 17. Ismail, V.Y., Zain, E. (2015). The portrait of entrepreneurial competence on student entrepreneurs. *Procedia-Social and Behavioral Sciences*, *169*, pp. 178-188.
- Izquierdo, E., Deschoolmeester, D. (2010). What entrepreneurial competencies should be emphasized in entrepreneurship and innovation education at the undergraduate level. *Handbook of research in entrepreneurship education: International perspectives*, 3, pp. 194-207.
- 19. Jakubiak, M., Chrapowicki, P. (2018). Wpływ kompetencji przedsiębiorczych naukowców na współpracę nauki i biznesu. *Edukacja Ekonomistów i Menedżerów*, *48*(2), pp. 95-111.
- Kaliszczak, L., Sieradzka, K. (2020). Kształtowanie postaw przedsiębiorczych studentów wobec współczesnych wyzwań rozwojowych. *Przedsiębiorczość-Edukacja*, 16(2), pp. 99-112.
- 21. Kowalewski, T. (2018). Przedsiębiorczość studencka wyzwaniem dla uczelni. *Humanizacja Pracy*, *2*(292), pp. 43-60.
- 22. Kulawiak, A. (2021). Postawy przedsiębiorcze młodzieży w najmniejszych miastach regionu łódzkiego. *Przedsiębiorczość-Edukacja*, *17*(*1*), pp. 140-152.
- 23. Kusio, T. (2017). Podnoszenie kompetencji przedsiębiorczych przed wejściem na rynek pracy. *Nierówności Społeczne a Wzrost Gospodarczy*, *50*, pp. 403-412.
- 24. Mazurkiewicz, A. (2020). Badanie postaw przedsiębiorczych studentów ekonomii. *Przedsiębiorczość-Edukacja*, *16*(2), pp. 113-127.
- 25. Nowak, H. (2018). Kształcenie akademickie jako etap konsolidacji kompetencji przedsiębiorczych. *Edukacja Ekonomistów i Menedżerów*, *48*(2), pp. 45-61.
- 26. Pesha, A., Shavrovskaya, M., Caha, Z. (2021). Comparative Analysis of the Level of Development of Entrepreneurial Competencies among Students in Russia and the Czech Republic. SHS Web of Conferences. EDP Sciences.
- 27. Piecuch, T., Szczygieł, E., Lozinsky, O. (2019). The issues of entrepreneurship of young people-theoretical considerations and empirical research. Available at: https://doi.org/ 10.36689/uhk/hed/2019-02-021.
- 28. Pittaway, L., Cope, J. (2007). Entrepreneurship education: A systematic review of the evidence. *International small business journal*, 25(5), pp. 479-510.
- 29. Plumly, Jr L.W. et al. (2008). Developing entrepreneurial competencies: A student business. *Journal of Entrepreneurship Education*, 11, pp. 17-28.

- 30. Rachwał, T. (2019) Kształtowanie kompetencji przedsiębiorczych. FRSE.
- 31. Remeikiene, R., Startiene, G., Dumciuviene, D. (2013). *Explaining entrepreneurial intention of university students: The role of entrepreneurial education*. International conference, pp. 299-307.
- 32. RezaeiZadeh, M. et al. (2017). Core entrepreneurial competencies and their interdependencies: insights from a study of Irish and Iranian entrepreneurs, university students and academics. *International Entrepreneurship and Management Journal*, *13(1)*, pp. 35-73.
- 33. Sánchez, J.C. (2011). University training for entrepreneurial competencies: Its impact on intention of venture creation. *International entrepreneurship and management journal*, *7*(2), pp. 239-254.
- 34. Sánchez, J.C. (2013). The impact of an entrepreneurship education program on entrepreneurial competencies and intention. *Journal of small business management*, 51(3), pp. 447-465.
- 35. Solesvik, M. (2019). Competencies and intentions: The role of higher education. *Forum Scientiae Oeconomia*, 7(1).
- 36. Soomro, B.A., Memon, M., Shah, N. (2020). Attitudes towards entrepreneurship among the students of Thailand: an entrepreneurial attitude orientation approach. *Education+ Training* [Preprint].
- Urbaniec, M. (2016). Rola uniwersytetu w kształtowaniu kompetencji przedsiębiorczych zgodnie z koncepcją zrównoważonego rozwoju. *Horyzonty Wychowania*, *15(35)*, pp. 73-91.
- 38. Vodă, A.I., Florea, N. (2019). Impact of personality traits and entrepreneurship education on entrepreneurial intentions of business and engineering students. *Sustainability*, 11(4), pp. 1-34.
- 39. Wronowska, G. (2020). Edukacja dla przedsiębiorczości na przykładzie wybranych działań Uniwersytetu Ekonomicznego w Krakowie. *Horyzonty Wychowania*, *19*(*51*), pp. 11-21.
- 40. Zhou, M., Xu, H. (2012). A review of entrepreneurship education for college students in China. *Administrative Sciences*, 2(1), pp. 82-98.