

# STUDENTS PREFERENCES IN TEACHING METHODS OF ENTREPRENEURSHIP EDUCATION

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## Article history

**Received**

July 30, 2020

**Received in revised form**

December 26, 2020

**Accepted**

May 10, 2021

**Available on-line**

June 30, 2021

## ABSTRACT

Entrepreneurial education has recently become popular at universities of economics almost all over the world. Various teaching methods play a significant role in the development of future entrepreneurs. Therefore, for a student to become a successful entrepreneur, it is essential to find the most effective tool for the teachers to support entrepreneurship education and find the ideal connection between the needs of the students and the right choice of a teaching method. There is a large gap between the needs of the business environment and university studies in this area. The research is based on 214 questionnaires filled in by the students from two different faculties. The paper aims to find and analyse the preferences of teaching methods for management students based on the following criteria: gender, faculty, degree of study. The students expected to be taught by active methods, e.g., expert lectures and business simulators. Differences in the use of teaching methods were the most evident among students from different faculties. The students of economic faculty prefer active methods to a greater extent than students of social studies. On the contrary, special projects and counselling are preferred teaching methods by students in health and social sciences.

## KEYWORDS

**Entrepreneurial education, management, students, teaching methods**

## HOW TO CITE

Pech M., Řehoř P., Slabová M. (2021) 'Students Preferences in Teaching Methods of Entrepreneurship Education', *Journal on Efficiency and Responsibility in Education and Science*, vol. 14, no. 2, pp. 66-78. <http://dx.doi.org/10.7160/eriesj.2021.140201>

## Highlights

- Higher interest in entrepreneurship courses is offered to students in economics and at lower levels of study.
- Students prefer active teaching methods (e.g., lectures from experts).
- Gender differences were not statistically detected in the evaluation of teaching methods, while differences in some methods were proved by faculties.

## INTRODUCTION

How to raise the entrepreneurial spirit and intentions of students? This question is interesting and should be solved by universities, especially by faculties of economic. In the future, the graduates of economics might work as experts in the business sector; their business plans, efforts, and successfully implemented plans should become the basis of the national economy and contribute to economic development. Due to this growing importance of power young student generations, the University of South Bohemia, the Faculty of Economics, has decided to survey facet Entrepreneurial education. Many universities working together with entrepreneurs, try to deal with the situation by closer cooperation. Potential candidates who start their careers at the University are becoming essential for the business sector's future development. The pressure on

the academic environment to prepare the young generation to set up its own business and management is increasing. Universities are currently focusing their research in this direction, seeking the innovation of subjects that meet these requirements.

Qosja and Druga (2015) state that national governments develop small enterprises. They expect the employment rate improvement, dealing with unemployment and economic growth from the market attitude trend. Entrepreneurship has become an everyday buzzword (Matlay and Westhead, 2005). The authors of many scientific studies and researches discuss the relationship between economic growth and entrepreneurship. In the states of a proven positive relation, the jobs are created, the technological changes occur, and small enterprises survive successfully, as reported by Karanassios

et al., 2006. Entrepreneurship education (EE) is booming worldwide (Neck and Greene, 2011) and become important for future competitive advantage. According to Fayolle (2009), entrepreneurship education includes many activities. Their goal is to develop students' entrepreneurial spirit and to support their thinking, skills, and attitudes. They should learn to create business ideas, start a business, develop it, and innovate.

Talisayon (2009) mentions in their study that the students should be exposed to different teaching methods in which they should engage themselves to increase the quality of the whole educational process. However, the question is which methods are most effective in teaching and can attract students to run their new businesses. Binks (2005) also highlights the promotion of entrepreneurial behaviour and thinking in the educational process. By Deakins et al. (2005), education should change young students' mindsets, build their entrepreneurial culture, and help them see their future careers in entrepreneurship.

This study's motivation is related to the introduction of the new subject entrepreneurship into the management program at the University of South Bohemia in České Budějovice. First, we investigate the students' interest in participating in the entrepreneurship course. Furthermore, the research part was to determine the choice of methods by which the subject will be taught. This step is essential for the preparation of teaching tools. Later, it is necessary to determine the content of the course in cooperation with experts. The obtained results will be used to compile syllabi and select teaching methods to attract students to entrepreneurship education. Conclusions related to the preference of research methods can be generalised and similarly used to prepare or innovate other managerially or economically oriented subjects.

## Entrepreneurship Education

Entrepreneurship education aims to deepen the thinking, knowledge and skills needed to start a business (Neck and Corbett, 2018). Kütüm et al. (2013) report in their study that entrepreneurial education has increased significantly, mainly due to the need to prepare students to cope with current changes in the work environment successfully. Entrepreneurship education aims to change the behaviour and attitudes of the students toward entrepreneurship. Jones and English (2004) state that the set of business lectures is intended to educate those interested in starting a business and developing it. After graduating, the students should understand entrepreneurship and become entrepreneurs (Hannon, 2005). In entrepreneurship education, skills, knowledge and attitudes important for future entrepreneurial activities are increasing (Hussain and Norashidah, 2015).

Arasti, Falavarjani and Imanipour (2012) highlight teachers' role and skills significantly influencing effective entrepreneurship education. To do this, teachers need to know and use various teaching methods to support and develop business. By Jones and Iredale (2010), it is necessary to change the teaching styles in entrepreneurial education, to be able to learn to deal with the issues creatively and immensely to arouse interest in entrepreneurship among the students. Entrepreneurship education should have a teaching approach at the university that helps students gain practical experience. This notion will

allow them to increase their thinking about entrepreneurship (Ndou, Mele and Vecchio, 2019; Cui, Sun and Bell, 2019). A university teacher plays a vitally important role in education (Figley, Eigen and Eigen, 2012). The teacher should know the students and know how to find effective learning (Ramos, 2015). Macaraeq (2007) wants to ensure that students complete each lesson as best as possible and successful.

University students have little interest in being entrepreneurs (Wongnaa and Seyram (2014). According to Luthans, Luthans and Luthans (2015) the desire for free work and self-efficiency is a motivation to study entrepreneurship and later to be an entrepreneur. Profit motives are also important for students to build new businesses (Choo and Wong, 2006). Students also want independence and autonomy (Stephan et al., 2015). Students with a need for success who are creative and innovative have a higher interest in entrepreneurship (Lautenschläger and Haase, 2011). Another motivating factor is risk tolerance (Segal, Borgia and Schoenfeld, 2005).

The first research question concerned the identification of students' interest in an entrepreneurship course. It means finding out how attractive the course is in terms of presentation (or marketing). The poorly publicised course will not arouse students' interest in studying. Determining students' interest in the course is the first step in deciding whether it makes sense to offer students this course as part of a study program. Students' interest in the entrepreneurship education course depends on their interest in entrepreneurship as a profession and their interest in teaching. Through marketing tools, universities can draw the attention of potential applicants to sign up for a course. However, the decision to become an entrepreneur largely depends on the self-efficacy and self-motivation of students (Kusumajanto, 2015). Entrepreneurship education usually acts as a mediator in shaping entrepreneurial intentions (Sha, Amjed and Jaboo, 2020; Li and Wu, 2019). Concerning these studies, we defined the first research question related to hypothesis 1:

*Research question 1: What are the students' interests in participating in entrepreneurship courses?*

## Teaching Methods of Entrepreneurship Education

There is also no uniform classification of teaching methods used in Czech literature. Authors who deal with the issue prefer a variety of perspectives and classify teaching methods differently. Smith (2006) deals with the reflection of contemporary modern teaching methods. These methods are divided into two groups in most of the publications. The first of them is called traditional methods (this includes traditional lectures). The second group is related to innovative (inductive) methods that are more action-oriented. Mwasalwiba (2010) also defines the traditional (passive) methods as formal lectures, compared to the innovative (active) methods, focusing on the students and the participation of both teachers and students in education.

Potter (2008) emphasises teaching methods of business planning, case studies, students' starting businesses, business games, student entrepreneurs' teams and networks, an internship in small companies, feasibility studies, training in

communication, getting advice in starting small businesses, distance education, and external cooperation and offers business simulations, games, analysis, and discussion of real businesses, group work, mentoring, networking (shared experience), tutoring, action learning, problem-oriented method, peer group support, expert advice, and intensive counselling, and access to business networks as teaching methods of entrepreneurship. The second research question deals with determining the teaching methods. The preference of the entrepreneurship method is discussed in various numbers of articles, for example, Solomon (2008), Gatti, Ulrich and Seele (2019). The main factors mentioned in related studies that influence students' preferences are gender (Daim, Dabic and Bayraktaroglu, 2016; Johansen and Foss, 2013; Marques et al., 2018; Nowinski et al., 2019), the field of study or faculty studied (Bae et al., 2014; Parsyak, Solesvik and Parsyak, 2014; Salminen et al., 2014), or year of the study (Hassan et al., 2015; Laukkanen, 2013). Based on these studies, we defined the following research question related to hypothesis 2:

*Research question 2: What are the students' preferences in learning methods useful for developing entrepreneurship?*

### **Traditional (Passive, Deductive) Methods**

Prince and Felder (2006) characterise the traditional methods as deductive. The lectures present the basic concepts and principles; students repeat and gradually learn business terminology. The traditional methods include lectures, exercises, creating a business plan, and a project compared to the innovative methods based on a more active pedagogical approach (Tasnim, 2012). According to Sogunro (2004), such traditional methods do not activate the entrepreneurial spirit. Bennett (2006) also considers them ineffective for business development.

Lectures of experts. The majority of the entrepreneurs tell the students their stories from practice; they acquaint the students with the business experience. All forms and types of discussion methods have mutual communication in common. The participants' exchange views on the topic, argue and work together to solve the discussed problem. Either an expert or a specialist from the field or an enterprise is invited to attend the course. Such a person prepares a particular lecture or demonstration on the students' current issues with the participants' final active discussion. The advantage is that the student gets information on current events and might be inspired and learn and express their opinion (Maňák, 2011).

Task and essays. Working with text usually means a teaching method based on textual information processing, which aims to acquire new knowledge, extend and deepen, and consolidate the knowledge. This method belongs to classical teaching methods. In the form of courses, the students are able to test the subject matter in writing. Testing is done by elaborating tasks that verify whether the lessons were understood or not. The essays teach the students how to present both the written word and content to clearly express the essay's aim and all other essentials (Hospodářský, 2013).

Special projects are such activities that are based on topics that connect theoretical knowledge with practice. This method is, therefore, on the border between active and passive

methods. A teacher directly assigns the tasks to the students, and the teacher is instead a supervisor of the projects. The students deal with the issues with the teacher's help and based on their knowledge and experience. Cooperation is an important part. Project learning focuses primarily on the student's experience. The essence of experience is that the subjects acquire their importance as they integrate into the human experience and used in a joint activity. This experience is based on students' active relation and the surrounding - natural and social - environment. This method's benefit is that students can experience practice (active method) and theory (passive method). Enterprises usually order projects related to the academic world. Students in these projects demonstrate their creativity in fulfilling a particular topic based on the entrepreneurs' assignment (Heinonen and Poikkijoki, 2006). Furthermore, after successful processing, an ordered project is sometimes implemented directly in the enterprise (Mazáčová, 2007).

### **Innovative (Active, Inductive) Methods**

As Prince and Felder (2006) reported, the inductive methods guide the students to discuss questions and deal with the problems. It is, therefore, active learning in which the students work together as a team. Such studying includes the active and collaborative approaches, having a high positive effect on the learning outcomes (for more see Prince, 2004). By Bennett (2006), the innovative methods require that the teacher not test and examine so much, but they should focus on the student's self-knowledge.

Active methods can be divided in different ways. According to the complexity of preparation, classification into categories (games, situational methods, discussion methods, problem methods), according to the purpose and goal of use in teaching (diagnostics, repetition, motivation, new forms of interpretation). Maňák and Švec (2003) present the following activating methods: discussion, heuristic, problem-solving, situational, staging and didactic games. Vališová and Kasíková (2011) divides activating methods concerning the degree of activity into heuristic (interview), discussion (discussion connected with explanation), problem (solving a problem situation), situational (case study, conflict situations, real-life case studies), staging and simulation, didactic games (learning - word, graphic, movement), project (solution of a relatively large form of the project), research (a problem of the research form). The other active methods might be based on the experiential learning of the full Kolb's cycle, constructivism, making videos, shooting films from the business environment (Verduyn, Wakkee and Kleijn, 2009), or excursions in the enterprises (Balan, 2014), etc.

Kassean et al. (2015) confirm in research that the experience and practical actions of a real entrepreneur will involve students more in learning and improve their entrepreneurial skills. Haneberg and Aadland (2019) support importance of the methods solving real problems and the presentation of experts. Solomon (2008) also emphasises the case study, business planning, discussions, research projects, computer simulations, entrepreneurship, visiting sites, and class practice. Torben (2010) thinks of entrepreneurship camps as teaching methods.

Commarmond (2017) deals with the improvement of critical thinking among students and presents illustrative examples. In entrepreneurship education, it is necessary to provide internships in companies, visit companies, and allow students to conduct interviews with successful entrepreneurs (Wardana et al., 2020). These methods apply to teach in context and provide students with real experience. This focus will increase their entrepreneurial willingness and skills (Potishuk and Kratzer, 2017). According to Ahmad, Abu Bakar and Ahmad (2018), there are experimental teaching methods: consultancy project, project-based learning, counselling/mentoring, practical training and working with entrepreneurs, start your own business.

A new level of entrepreneurship education innovation brings business simulations and playing games (Chang and Rieple, 2013). Business games are, by Tasnim (2012), a fundamental and useful teaching method. However, there are various obstacles to using games. Kirriemuir and McFarlane (2004) notice the following: the very inclusion in teaching, the teacher needs enough time in the class to use them. They must not waste time in teaching, and the teacher must be convinced of their benefits. Business games include factory simulation and training models focused on demonstration and comprehensive presentation of networked digital applications in a real production environment. Business simulation represents the real situation using a simplified simulation model imitating some business situations or processes (Pasin and Giroux, 2011). This method is active and very popular. Management simulators are augmented virtual reality, in which particular cases from business practice are tested.

The case studies acquaint the students with the main problem. They are used for the application of theoretical knowledge in a real business situation. Accordingly, the studies are based on real facts and deduction (in the correct answer). If more than one solution is possible, they need to be addressed within the context.

Counselling in psychology is a complementary method. However, it plays the social and supportive role of directing the students to which profession they are suitable for or as support in expert consultations. Students try different personality tests. Students in a group deal with issues in the field of management and business. Some of them act in an advisory role (Ahmad, Abu Bakar and Ahmad, 2018).

Role-playing is closely related to the importance of roles in organisations (Corbett, 2005). Roles can be defined as the interface between individual and organisation daily as the organisational agents assume roles by adopting positions and executing functions with particular expected behaviour (Nagler, 2009). It is an active teaching method that enables the students to “try” what it is like being a manager, a marketing specialist, a CEO, an auditor, and a personnel advisor. The students react to different situations in a role, and they deal with standard practice. By including classroom activity, the students acquire new knowledge while acquiring essential skills such as organisational and communication skills and, last but not least, developing life strategies. A student practices the practical application of knowledge, skills, and attitudes (Tůmová et al., 2014).

## MATERIALS AND METHODS

The paper aimed to find out what teaching methods related to entrepreneurship would be welcomed by students of management. A partial aim deals with the question of the students who are interested in entrepreneurship courses. Overall, 214 questionnaires were filled by the students of the University of South Bohemia in České Budějovice in 2018–2019. Data collection took place in the lessons of the course management. The overall return on the questionnaires was therefore very high and amounted to almost 95%. The teachers of the course distributed the questionnaires to selected students who filled them out. The obtained questionnaires were used for subsequent data analysis and statistical processing.

The research sample represents all students of the Faculty of Economics (FE) and Health and Social Studies (FHSS) who have a course of management as part of full-time study programs, i.e. a total of 1012 students (according to internal data of the study department). The overall margin of error is estimated as 5.96% at a 95% confidence interval. We determined the research sample distribution by the quota selection method using the gender, faculty, and year of the study quota characteristics.

We used the weighted approach to the one-sample chi-squared test to analyse the distribution goodness of fit between the sample and the population (Parke, 2013). In gender, the total student population is characterised by a ratio of 30.5% to 69.5% (men vs women), where chi-squared is 0.629 and  $p$ -value 0.428. The ratio of faculties in the population sample is 93.77% to 6.23% (FE vs FHSS). However, chi-squared is 152.709 with  $p$ -value  $< 0.001$ . The ratio of 1st class students to students from other (2nd–5<sup>th</sup> class) classes of study in the population is 43.3% to 56.7%. We explain this high proportion of 1st class students compared to other class students in the population sample by the very high failure rate in the first year of study (according to the internal data from annual report in 2018 was a failure rate of 1st class full-time students for bachelor programme about 48.7% and in follow-up master’s degree about 10.3% at Faculty of Economics). In this case, chi-squared is 0.601 and  $p$ -value 0.438. For all cases when  $p$ -value indicates that the null hypothesis of equality of the two sets of proportions is not rejected. Then, the distribution of the sample is similar to the distribution for all students in the population. The sample’s representativeness can be confirmed due to the low margin of error and the distribution of the gender and year of the study.

Students are divided into the following categories:

- a) by the gender of the students into 60 men and 154 women;
- b) by the faculty into 57 students of the Faculty of Health and Social Sciences and 157 students of the Faculty of Economics;
- c) by the year of the study into 87 students from 1st class and 127 students from other classes.

The structured questionnaire contained questions related to the area of entrepreneurship education. The closed questions are based on information obtained through personal communication with selected university experts from education area. The questionnaire was pre-tested for the validity of 30 student

participants who were asked to respond to items measuring the theoretical structure. These participants were also asked to identify any ambiguities that they might disclose in the draft questionnaire. Based on their feedback, we made some minor changes in the questionnaire.

In the paper, two questions from the questionnaire are analysed: “Are you interested in an entrepreneurship support course and other business training courses?” and “Evaluate the learning methods/techniques that you believe are useful for developing business qualities“. For the research purpose, the researcher has considered the best proven eight methods used in management education: tasks and essays, special projects, business games, case studies, counselling in psychology (personality tests), role-playing, business simulators and lectures of experts. We chose education methods that are currently used in courses of management at the Faculty of Economics. Investigated students know these methods. Thus it is appropriate for students to fill a designed questionnaire. These variables were measured with a 7-point Likert scale (anchored 1 with “Little useful method”, and 7 with “Very useful method”). Conceptually and empirically, the measure is based on evaluating the utility of a method for developing entrepreneurship competencies.

The internal reliability of a questionnaire shows a high level of consistency. The result of Cronbach’s alpha coefficient is 0.8146, with an average correlation among items 0.3648. The value of Cronbach’s alpha of each item varies from 0.7735 to 0.8190. The recommended value for applied education research is, according to Taber (2018) value of Cronbach Alpha between 0.7 and 0.95.

The results were subjected to statistical analysis by the nonparametric Mann-Whitney test. The test compares two unrelated, independent samples. The result of performing a Mann Whitney  $U$  Test is a  $U$  Statistic. Observations should follow the normally distributed shape. The  $U$  test is computed based on rank sums rather than means. In computations for the Mann-Whitney  $U$  test, a continuity correction is applied. Formula 1 describe Mann-Whitney  $U$ -test statistics for each of the two samples (Corder and Foreman, 2009: 17):

$$U_i = n_1 n_2 + \frac{n_i(n_i + 1)}{2} - \sum R_i \quad (1)$$

Where  $U_i$  is the test statistic,  $n_i$  is the number of values,  $n_1$  is the number of values from the first sample of students,  $n_2$  is the number of values from the second sample of students, and  $\sum R_i$  is the sum of the ranks.

After the  $U$  statistics are computed, they must be examined for significance (Corder and Foreman, 2009: 58). Working hypotheses, which form the subject matter of verification on the 1% and 5% level of significance, are the following:

$H_1$ : There is no difference in ranks of one group of students to have significantly higher (or lower) interest in participating in entrepreneurship courses than those of the other.

$H_2$ : There is no difference in ranks of one group of students to evaluate significantly higher (or lower) learning methods useful for the development of entrepreneurship than those of other students.

We have specified and divided these null hypotheses according to the following three criteria:

- gender (students group of men and women)
- faculties (the group of FE and FHSS students)
- year of the study (the group of students from the first year of the study and others)

$H_A$ : The alternative statistical hypothesis is that the ranks of one group of students are systematically higher (or lower) than those of the other (the difference exists in at least one case).

The results present for clarity achieved the level of significance ( $p$ -value) at alpha level 0.05. The software Statistica 12 is used to calculate statistical tests.

After that, significant relations were tested for order variables through correlations. Spearman rank correlation is one of the most common measures and takes values from the interval [-1; 1]. The closer the calculated value of the correlation coefficient is to 1 (or -1), the tighter the relationship between the variables. If each variable is in the same order for both variables, then the coefficient is positive (known as the direct dependence). The negative correlation is at the negative value of the correlation coefficient. It means that the ascending values of the first variable correspond to the descending order of the values of the second variable. The value of 0 indicates the statistical independence of both variables (Řezanková, 2007: 68):

$$r_s = 1 - \frac{6 \cdot D^2}{n(n^2 - 1)} \quad (2)$$

## RESULTS

Results are divided into three sections: the student’s interest in the course of entrepreneurship, the overall evaluation of teaching methods for the development of entrepreneurship, and the evaluation of these methods according to different criteria.

### a) The interest of the student in the course of entrepreneurship

The first question in the questionnaire was related to the interest in the course of business and entrepreneurship for students. This question corresponds to hypothesis  $H_1$ . Table 1 summarises the most important statistical characteristics. The authors chose a three-type classification of the sample - by gender, type of faculty, and year of study. The rating of the interest in the courses scored from one (least useful) to seven (very useful).

	Number	Average	Median	Standard deviation	Coefficient of variation
Men	60	4.63	5	1.60	34.63
Women	154	4.25	4	1.65	38.86
FHSS	57	3.86	4	1.72	44.46
FE	157	4.54	5	1.58	34.91
1 years	87	4.76	5	1.54	32.36
Other years	127	4.08	4	1.66	40.70
Total	214	4.36	4	1.64	37.73

**Table 1: Interest of the student in the course of entrepreneurship (source: own calculation)**

The average value of all students' interest was 4.4, indicating a moderate to higher interest in the courses. On average, men are more interested in entrepreneurial courses (4.6), by approximately 0.3 points than women. A more significant difference in interest was revealed regarding the other criteria in the survey. The students of the Faculty of Economics (4.5) are more interested than the students of the Faculty of Health and Social Studies, by about 0.6 points. Even the first-year students (4.8) are more willing to attend this course by more than 0.7 points than the students of higher grades.

The working hypothesis  $H_1$  was at the 5% level of significance rejected for the groups of students divided according to the faculty characteristics ( $p$ -value = 0.0120). Similarly, we rejected the hypothesis at the 1% level of significance for the groups of students divided according to the year of the study ( $p$ -value = 0.0025). The differences between both groups of students were statistically proven. The ranks of the group of students of the Faculty of Economics have significantly higher interest to participate in the course of entrepreneurship or other training courses than the group of students of the Faculty of Health and Social Sciences. Similarly, the group of students in the first year of the study (first-class) has a significantly higher interest in participating in the entrepreneurship course or other training courses than others. However, we fail to reject the null hypothesis  $H_0$  for the characteristics of students' gender. There is no tendency for the male students' ranks to have significantly higher (or lower) interest to participate in a course of entrepreneurship or other training courses than female students ( $p$ -value = 0.1002) – see table 2.

Characteristics of students	U	Z	p-value
According to gender	3961.0	-1.6437	0.1002
According to faculty	3483.0	-2.5136	0.0120*
According to years of study	4202.0	-3.0177	0.0025**

Note: the statistically significant differences at the significance level of 5% are marked \*, and at the significance level of 1% are marked \*\*.

Table 2: Results of testing hypothesis  $H_1$  (source: own calculation)

### b) Overall evaluation of teaching methods for the development of entrepreneurship

In this section, the different teaching methods, as evaluated by the students, are introduced. As shown in Figure 1, the students prefer entrepreneurship education methods, which are connected with “live information”. It means that the most

popular are seminars where experts in the entrepreneurial environment will share their experiences. This finding is an excellent opportunity for students to ask their individuals questions. The next favourite method is business simulators which can prepare very similar conditions for business/entrepreneurial carriers. This method can support a student to run their own business and eliminate the fear of failure. On the same level is the method” Project with a specific target on a particular topic in the business area. The third interesting method is “playing the role “that belongs to active learning. Other teaching methods like Psychology counselling, case studies, business games are useful but not so outlined as active methods. The less popular with, the less effective method which students choose are seminars and task in lectures. The main result is that students prefer an EE method to gain real information and try some real business situation than traditional teaching methods. They want to develop individual competencies suitable for their personality.

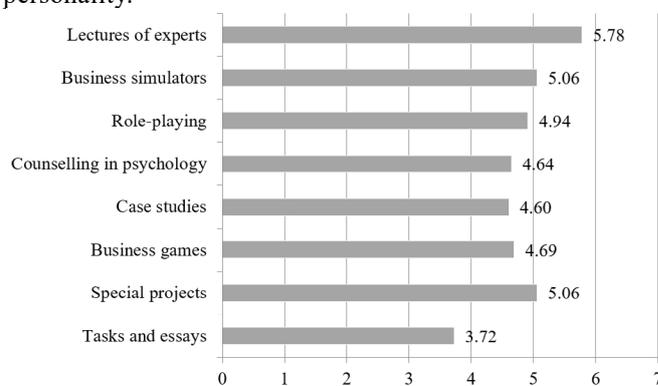


Figure 1: Evaluation of teaching methods for the development of entrepreneurship (average), 2018-2019 (source: own calculation)

As revealed by the correlation coefficients of different teaching methods, there is a relatively strong correlation. The strongest correlations ( $r > 0.45$ ) are marked in bold in Table 3. The relation of business games and business simulators is seen in the Spearman correlation coefficient, which is the highest among the two methods ( $r = 0.6340$ ). Similarly, there is a moderate correlation (Akoglu, 2018) between business games and business simulators ( $r = 0.5147$ ), case studies with business games ( $r = 0.4983$ ), and case studies with special projects ( $r = 0.4983$ ). The lowest Spearman's correlation coefficient was between lectures from experts and tasks and essays ( $r = 0.1064$ ).

	a	b	c	d	e	f	g	h
(a) Tasks and essays		0.4269	0.2011	0.2968	0.2286	0.2538	0.2219	0.1064
(b) Special projects	0.4269		0.4457	<b>0.4933</b>	0.3078	0.4291	0.4079	0.2834
(c) Business games	0.2011	0.4457		<b>0.4983</b>	0.3501	0.4276	<b>0.5147</b>	0.2292
(d) Case studies	0.2968	<b>0.4933</b>	<b>0.4983</b>		0.3890	0.4073	0.4488	0.2696
(e) Counselling in psychology	0.2286	0.3078	0.3501	0.3890		0.3361	0.3399	0.1762
(f) Role-playing	0.2538	0.4291	0.4276	0.4073	0.3361		<b>0.6339</b>	0.2597
(g) Business simulators	0.2219	0.4079	<b>0.5147</b>	0.4488	0.3399	<b>0.6339</b>		0.3832
(h) Lectures of experts	0.1064	0.2834	0.2292	0.2696	0.1762	0.2597	0.3832	

Table 3: Relationships among methods, 2018-2019 (source: own calculation)

From the above results, we conclude that there are some relations between methods. We can divide the observed methods into three groups. The first group consists of case studies that correlate with special projects and business games. These are methods using practical examples solved by students in lessons (case studies), individually or in a team in the field (special projects), or business (managerial) games in an online environment or a prepared practical exercise. The second group consists of modern simulators in an online environment, or simulations in a real environment using the role-playing method, or scenarios prepared in case studies. The last group consists of passive methods such as tasks and essays, lectures of experts. This division of teaching methods can also be used to classify teachers.

### c) Evaluation of teaching methods according to different criteria

The last section is teaching methods evaluated by three criteria: gender, faculty, and year of the study. This finding corresponds to hypothesis  $H_2$ .

#### Evaluation of teaching methods according to gender

On average, women rank the experts' lectures (5.74) best, followed by special projects (5.19), which is almost 0.5 points more than men. Even men prefer the experts' lectures (5.88); however, the business simulators are the second (5.07). Tasks and essays are considered the least suitable teaching method (average below 3.9) – see table 4.

	Women	Men	U	Z	p-value
Tasks and essays	3.84	3.42	4018.5	1.5013	0.1333
Special projects	5.19	4.70	3727.0	2.2484	0.0245*
Business games	4.66	4.77	4581.0	-0.0962	0.9234
Case studies	4.60	4.60	4616.5	-0.0075	0.9940
Counselling in psychology	4.73	4.42	4067.0	1.3833	0.1666
Role-playing	4.92	4.88	4423.0	0.4930	0.6220
Business simulators	5.05	5.07	4457.0	0.4088	0.6827
Lectures of experts	5.74	5.88	4256.5	-0.9420	0.3462

Note: the statistically significant differences at the significance level of 5% are marked \*, and at the significance level of 1% are marked \*\*.

**Table 4: Evaluation of teaching methods for the development of entrepreneurship (according to gender), 2018-2019**

(source: own calculation)

At the 5% level of significance, we do not reject the null hypothesis  $H_2$  for students' gender characteristics to evaluate most learning methods. The working hypothesis  $H_2$  was at the 5% level of significance rejected ( $p$ -value = 0.0120) only for the special projects. The differences between groups of male students and female students were statistically significant. The results show that the ranks of female students' ranks evaluate the "special project" significantly higher than the group of students of the male students. In other cases (other learning methods), differences according to the gender of the students were not statistically proven.

#### Evaluation of teaching methods according to faculty

On average, the Faculty of Economics students rank the experts' lectures (5.39) as the second-best method of teaching, following the special project (4.84). Students of the Faculty of Health and Social Sciences prefer the lectures of experts (5.92), followed by business simulators (5.26), which is almost

0.8 points more than the EF students. The tasks and essays are the least popular for both groups – see table 4.

The working hypotheses  $H_2$  for the characteristics of students' faculty was at the 5% level of significance rejected for learning methods: tasks and essays, business games, business simulators, lectures of experts. The differences between groups of students from different faculties were statistically significant (see  $p$ -values in table 5). Results show that these entrepreneurship learning methods evaluate the group of students of the Faculty of Economics significantly higher than the Faculty of Health and Social Sciences group. Business games and business simulators, in particular, are special teaching methods designed for economic subjects. The Spearman correlation coefficient proves the relation of both these methods. The value of the coefficient is the highest in the whole sample of these two methods. No statistically significant differences were found between the faculties' students in the sample for other teaching methods.

	FHSS	FE	U	Z	p-value
Tasks and essays	3.33	3.87	3580.5	-2.2679	0.0233*
Special projects	4.84	5.13	4057.0	-1.0675	0.2858
Business games	4.18	4.88	3472.0	-2.5443	0.0109*
Case studies	4.74	4.55	4090.0	0.9778	0.3282
Counselling in psychology	4.82	4.58	4093.0	0.9693	0.3324
Role-playing	4.68	4.99	3997.5	-1.2148	0.2244
Business simulators	4.49	5.26	3266.0	-3.0882	0.0020**
Lectures of experts	5.39	5.92	3509.5	-2.5433	0.0110*

Note: the statistically significant differences at the significance level of 5% are marked \*, and at the significance level of 1% are marked \*\*.

**Table 5: Evaluation of teaching methods for the development of entrepreneurship (according to faculty) 2018-2019 (source: own calculation)**

## Evaluation of teaching methods according to the year of study

On average, the first-year students enjoy experts' lectures (5.99) followed by the business simulators (5.39). Higher grades students also prefer the experts' lectures (5.64); however, followed by the special project (4.99). Both groups of students cite tasks and essays as the least suitable teaching method; the method is evaluated by almost 0.6 points less than in the first-year students – see table 6.

At the 5% level of significance, we reject the null hypothesis  $H_2$  for the characteristics of students' year of the study only for the learning methods: tasks and essays and business

simulators. The differences between groups of students from the first year of study (1st class) and other study years (other classes) were statistically significant. The results show that the group of students from the first year of the study (first-class) evaluate those entrepreneurship learning methods significantly higher than others. The first-year students are more interested in classical teaching methods (tasks and essays) and business simulators regarding the new methods. This result may not be surprising, explained by their positive attitude to study. The problem, however, is the declining interest in these methods in subsequent years. In other cases (learning methods), differences according to the study's year were not statistically proven.

	1 <sup>st</sup> year	Other	U	Z	p-value
Tasks and essays	4.06	3.50	4430.5	-2.4979	0.0125*
Special projects	5.15	4.99	5366.0	-0.3640	0.7159
Business games	4.78	4.63	5335.0	-0.4319	0.6658
Case studies	4.64	4.57	5347.5	-0.4045	0.6859
Counselling in psychology	4.61	4.67	5411.5	0.2576	0.7967
Role-playing	4.97	4.87	5378.0	-0.3350	0.7376
Business simulators	5.39	4.83	4344.5	-2.7137	0.0067**
Lectures of experts	5.99	5.64	4782.5	-1.7597	0.0785

Note: the statistically significant differences at the significance level of 5% are marked \*, and at the significance level of 1% are marked \*\*

**Table 6: Evaluation of teaching methods for the development of entrepreneurship (according to the year of study), 2018-2019**

(source: own calculation)

## DISCUSSION

Traditional teaching methods, such as essays and seminars focused on theoretical knowledge, were ranked last. Active teaching methods include business simulators, role-playing, and special projects where students are able to connect their knowledge into practice. These methods can also support students to run their own business and eliminate the fear of failure. A modern approach to teaching and using new methods is exciting and stimulating for students, coinciding with the research results in Nigeria. Olokundun et al. (2008) state that practical business activities are an essential and valued teaching method. According to the results of a study conducted in Switzerland, active approaches to education (games, simulations) are suitable for developing critical thinking and motivation (see Gatti, Ulrich and Seele, 2019). Solomon (2008) reports that the most used teaching methods in business include lectures, case studies, and plans creation. Tan and Ng (2006) emphasise active learning and dealing with practical problem situations. Foreign research confirms that active teaching methods are more suitable for teaching entrepreneurship.

### Gender differences

Gender differences in entrepreneurship are often discussed in scientific research and papers (see Hughes et al., 2012, Minniti and Naudé, 2010; etc.). In our research, men are more interested in entrepreneurial courses by approximately 0.3 points than women. However, the authors did not prove the hypothesis ( $H_1$ ) that any group of students divided by gender is more interested in an entrepreneurship course. According to the answers, it was confirmed that the students, according to gender, are similarly interested in such courses. Díaz García

and Jiménez-Moreno (2010) do not show any significant gender differences in the business plans in their research. Nowinski et al. (2019) researched the Visegrad countries and proved that entrepreneurship education is crucial for women. DeTienne and Chandler (2007) point out that men and women's business skills are not the same. Wehrwein, Lujan and DiCarlo (2007) confirm that male students prefer more different teaching methods than female students. The Association of Small and Medium-sized Enterprises and Crafts of the Czech Republic and the Ministry of Industry and Trade state that women in the Czech Republic have started to do more business than men in recent years (CFO World, 2017).

In the Czech Republic, more men start a business in the southern and eastern regions. This statement shows a higher interest of students in business education from the South Bohemian region at the University. The European Commission in the report (2013) points out that women's entrepreneurship's basic features are very similar in the US and the EU. Dilli and Westerhuis (2018) state that women see fewer business opportunities, so they do not do so much business (especially in demanding industries) and are also not interested in developing their businesses compared to men. According to Munoz-Fernandez, Rodriguez-Gutierrez and Santos-Roldan (2016), women are more responsible and disciplined than men. However, they also do not invest so much in business, and they are afraid to take risks and be proactive.

### Faculty differences

As revealed by different faculties, the results logically lead to higher interest in courses among the Faculty of Economics students. This finding also results from the focus of the

faculties. The Faculty of Health and Social Studies students are more prepared for employment in public and social administration. There are not any subjects involved in the business in the offer of the courses at this faculty. Differences between faculties are significant ( $H_2$ ) for learning methods: tasks and essays, business games, business simulators, lectures of experts. It is clear that, in particular, business games and business simulators are special teaching methods for economic subjects. Marques et al. (2018) confirmed the positive impact of entrepreneurship education on the university students' innovation and pro-activity (especially the students in business and social sciences programs). However, no effect is found concerning the students of technical programs.

In their study, Westhead and Solesvik (2016) compare the students of business and technical programs. The same groups report a high interest in the business. For women, this interest is reported to be lower. Parsyak, Solesvik and Parsyak (2014) reveal that entrepreneurship education is given only to students of the business programs. They learn business theory, and they attend practical courses, usually in higher grades. Bae et al. (2014) confirm a more substantial business plan and business education relation than general business education and a business plan.

### Year of study differences

According to years of study, there are different preferences of interest in entrepreneurship courses ( $H_1$ ). Students of higher years have less interest in entrepreneurship courses. Apparently, during their studies, they had already completed courses in which they learned about business and therefore, did not need further courses to study or require future vocational training. First-year students would welcome such courses. These students do not know what they will learn during their studies in business or management. However, entrepreneurship and entrepreneurship do not appear in compulsory subjects at University of South Bohemia in Ceske Budejovice. Differences in the learning methods between students according to their year of the study are significant ( $H_2$ ) only for tasks and essays and business simulators. Notably, first-year students have the highest interest in traditional teaching methods (tasks and seminar papers) and business simulators are most interested in new teaching methods. This result may not be surprising and can be explained by their positive approach to learning. However, the growing problem is the declining interest in these methods in subsequent years.

In their study, Hassan et al. (2015) point out that entrepreneurship education at the University of Kebangsaan Malaysia (UKM) is implemented in entrepreneurship courses for the first-year students of 12 faculties, regardless of their study program. Each faculty has a coordinator providing business activities. Lujan and DiCarlo (2006) state the student preferences according to which they obtain the necessary information. These include visual, auditory, readable, and written forms. About one-third of the first-year students prefer the presentation of information. Laukkanen (2013) emphasise, how important exploring academic entrepreneurship is for positive influences on entrepreneurship and innovation by each university faculty.

## CONCLUSION

Entrepreneurial education and its importance are increasing. It is necessary to prepare the students to start their own business due to changes in the market and environment. There are new intentions from the Czech Republic's state politics that early business can be positively influenced and supported. On the other hand, new startups can motivate more beginning young entrepreneurs. By Gibb (2002), entrepreneurial education is a broader concept than just teaching about entrepreneurship. Entrepreneurial education, as reported by Küttim et al. (2013), significantly contributes to the development of entrepreneurship and the creation of business plans.

Despite many studies, e.g., Sieger, Fueglistaller and Zellweger (2011), this issue is not very well researched in the Czech Republic on this theme in other foreign countries. The University of South Bohemia, Faculty of economic has decided to find out more continuity between students reaches to set up their own business and the education at Universities, which can support the competencies and entrepreneurial spirit. The interest in the study of entrepreneurial courses was higher for men, the Faculty of Economics students, and students of the first year ( $H_1$ ). Entrepreneurship courses must acquaint students with ways to overcome obstacles, failures. They must gain experience from real entrepreneurs (Bauman and Lucy, 2019). Mwasalwiba (2010) also states in the study that the education of managers needs significant changes (as the number of entrepreneurs needs to be increased). Olugbola (2017) and Coduras, Saiz-Alvarez and Ruiz (2016) state that economic, managerial or psychological knowledge impacts good preparation for business.

The survey results show that students prefer active teaching methods to entrepreneurship over traditional methods prevalent in management teaching. Significant differences in the use of teaching methods were found, especially among different faculties ( $H_2$ ). As revealed by the correlation, the most significant dependency was demonstrated in simulators and business games, so it is desirable to combine these two entrepreneurship education methods. More practical approaches and active methods are needed in entrepreneurship education, and students require them much more (Lima et al., 2014). Entrepreneurship teachers need to use a variety of teaching methods and combine theory with practice. Active teaching methods should be used more often. Foreign experts also confirm this finding.

The paper contributes to the progress in entrepreneurship education theory because it presents different teaching methods and students' preferences. Educational programs focused on management and business do not place such an emphasis on the development of entrepreneurship. The study programs focus on teaching various business activities of a business manager, such as most of the Faculty of Economics programs of the University of South Bohemia in České Budějovice. The implication for developing a new entrepreneurship course related to creating a study plan and syllabi enables the use of active methods. From a practical point of view, the paper will contribute to improving the offered entrepreneurship courses. The next step to improve entrepreneurial education at the Faculty of Economics at University of South Bohemia can

be future cooperation with absolvents recently graduated and having current awareness from praxis in business.

There are some limitations related to the paper. The selected research sample includes more students of Health and Social Studies faculty than in total population. In reality, a smaller percentage of the Faculty of Health and Social Studies students participate in study the management because of less focus of programs on management and economics. The goodness of fit test results shows that surveyed students cannot generalise well to all students in the sample concerning the faculty attribute. The selection of the research sample may have skewed the results due to potential biases. However, the increase in the sample ratio (from 6.26% to 26.64%) was not high and still maintains a relatively distinctive sample proportionality.

Further, we admit that several (not analysed) methods can be researched. We used only eight methods, with which the students of the faculties are acquainted. Their evaluation is easier for the student of the investigated university and faculties. Other methods should also be considered in further research. The results show the situation in the preferences of teaching methods for students before the coronavirus crisis. Due to the significant expansion of distance learning opportunities, we plan research to reveal possible changes in students' preferences for new online methods.

## ACKNOWLEDGEMENT

This paper was supported by project OPVVV CZ.02.2.69/0.0/0.0/16\_015/0002348 "Rozvoj JU – ESF".

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