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Teaching Entrepreneurship

CREATOR

Experiential Approach to Teaching Entrepreneurship through Workplace Learning

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Teaching Entrepreneurship

EVIDENCE BASED STUDY OF EFFECTS OF EXPERIENTIAL TEACHING OF ENTREPRENEURSHIP ON ENTREPRENEURIAL COMPETENCIES OF VET TEACHERS AND STUDENTS





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Evidence based study of effects of experiential teaching of entrepreneurship on entrepreneurial competencies of VET teachers and students

INTRODUCTION

Entrepreneurship is not only associated with the formation of new firms, but with action in the sense of starting something new. It is a process that often leads to new business formations, but it may very well include innovative and enterprising behaviour inside existing organizations.¹ Corporate entrepreneurship plays an important role in the process of strategic renewal of existing firms.² It may be associated with alertness, finding new product-market combinations and innovation.³ Entrepreneurs are important for the growth of firms since they provide the vision and imagination necessary to carry out opportunistic expansion.

As organizations committed to educational missions, schools, colleges, and universities are charged with passing along knowledge to students (through exchanges between students and teachers, through exchanges between students and books or other resources, and through exchanges among students themselves).⁴

Besides the knowledge creation and diffusion, schools, colleges, and universities have the mission to develop the creative and innovative spirit among students. As corporate entrepreneurship plays an important role in the process of strategic renewal of existing firms, schools, colleges, and universities are the means through which students can develop their innovative and entrepreneurial spirit.

Entrepreneurship also refers to an individual's ability to turn ideas into action. Entrepreneurial programmes and modules offer students the tools to think creatively and to

¹S. Cromie "Assessing entrepreneurial inclinations: some approaches and empirical evidence". *Eur J Work Organ Psychol*(2000) 9(1):7-30.

²Sjoerd Beugelsdijk, "Entrepreneurial culture, regional innovativeness and economic growth", *J Evol Econ* (2007) 17:187-210.

³S. Wennekers, R. Thurik, "Linking entrepreneurship and economic growth". *Small Bus Econ*(1999)13:27-55.

⁴Lisa A. Petrides and Thad R. Nodine, "Knowledge Management in Education: Defining the Landscape", The Institute for the Study of Knowledge in Education, March 2003, California, www.iskme.org.



be an effective problem solver. Education for entrepreneurship can be particularly effective in initial vocational training, as students are close to entering working life and self-employment may be a valuable option for them. Thus, entrepreneurship education should not be confused with general business or economic studies, as its goal is to promote creativity, innovation and self-employment

Entrepreneurship education has long been focused on a theoretical approach, preparing a thorough business plan and development of a company in the office. In the last decade, there has also been a shift, towards a more experiential approach in this field, based on developing ideas, practical methods, and tools, fieldwork and development of a business model. The experiential teaching of entrepreneurship has the potential to bridge the gap between the worlds of education and work.

The following publication is the fourth output: a Study of the effects of experiential teaching of entrepreneurship on entrepreneurial competencies of VET teachers and students.

After the “Train the Trainer Event” in Ljubljana, between 10-12 April 2018, and the International study visit in Rome, between 26-28 November 2018, each country involved in the project held a training (3 days of training) for VET teachers from their region, in order to prepare teachers for experiential teaching of entrepreneurship. These trainings were held based on the learning materials for teachers (Handbook for teachers), created and designed by STEP Institute with the help of all partners. All these activities were followed by 30 hours of pilot experiential entrepreneurship courses based on workplace learning led by VET teachers in cooperation with local companies.

The fourth Intellectual output aims to provide evidence of entrepreneurial competencies development during the process of pilot experiential entrepreneurship courses in all the countries involved in the project (Germany, Slovenia, Romania, Italy and Croatia). The study intends to analyse how the entrepreneurial competences of VET teachers and students were before and after the experiential course. In order to do that, we designed questionnaires for the Teachers’ training and for Students’ training (all the questionnaires are shown in the Annexes of this study).

For the **Teachers’ Training** we used the following questionnaires:

- Q1_Pre training Teachers Knowledge
- Q3-Quality of teaching and teaching methods
- Q2_Post training Teachers Knowledge
- Q4T_Evaluation of the training questionnaire – teachers

For the **Students’ Training** we used the following questionnaires, designed both for teachers and students:

- Q5_Learning process of students – teachers
- Q7_Effective learning environment – teachers
- Q6_Learning process of students – students
- Q8_Effective learning environment – students
- Q4S_Evaluation of the training questionnaire



Before and after the training questionnaires Q1 and Q2 were applied, in order to test the teachers' knowledge on different aspects regarding entrepreneurship taught in an experiential way. As these questionnaires analysed the knowledge before and after the training, the teachers were asked to write down different things or to choose from a list of items.

In training the trainers there should be an evaluation of methods and type of pedagogy and strategy used to transfer the knowledge from the trainer to the trainees. This is the aim of questionnaire Q3. This questionnaire used a 5 point Likert scale for all the questions (1 = I have never used this method; 2 = I used it only a couple of times; 3 = I use it occasionally; 4 = I use it quite a lot; 5 = I regularly use it)

In order to evaluate the entire training, it is necessary to analyse the main aspects related to the training sessions, the trainers and the perception on overall activities. After the training and workshops the questionnaires Q4T and Q4S were applied. These questionnaires used a 5 point Likert scale for 1 set of questions (1 – bad, 2 – solid, 3 – average, 4 – good, 5 – very good), and there were also 4 open questions.

The peak of the entire project was the training for students, they being the last and most important beneficiary of the project. Questionnaire Q5 evaluates teachers' perceptions of the training applied to the students, and questionnaire Q6 evaluates the students' perception of the training applied to them. Q5 and Q6 are questionnaires built in a mirror way, with same items in order to compare the perception of both parts involved in the process: teachers and students. These questionnaires used a 5 point Likert scale for 2 sets of questions (1 = haven't gained any knowledge or skills; 2 = gained little knowledge or skills; 3 = gained some knowledge or skills; 4 = gained good knowledge or skills; 5 = gained great knowledge or skills), and there were also 3 open questions.

There are several important aspects related to the learning process that must be analysed at the end of the process. Questionnaires Q7 and Q8 are focused on the effective learning environment from both teachers' and students' perspectives. The questionnaires used a 5 point Likert scale for the 2 sets of questions (1= completely disagree; 2 = disagree; 3 = partially agree, partially disagree; 4 = agree; 5 = completely agree).

In analysing the results, we used descriptive statistics – frequencies, average scores and the number of answers.



❖ *Results regarding the knowledge in the teachers case - pre and post-training - questionnaires Q1 and Q2*

The teachers had to identify the features that belong to the entrepreneurship as a method, considered a contemporary teaching approach. Comparing the responses before and after training, we may notice in Table 1 the distribution of the responses.

Table 1

Which of the following features belong to Entrepreneurship as a method (contemporary teaching)	Number of responses pre-training	Number of responses post-training
Predictive	28	19
Collaborative	37	40
Action focused	22	46
Iterative	31	33
Linear	20	25
Planning focus	29	21
Phases of learning	28	31
Creative	38	48
Teacher as an expert	32	26

The features corresponding to entrepreneurship as a method are marked with yellow in Table 1. As we may notice, all the features that belong to Entrepreneurship as a method increased after training, at the same time all the others false features have less choices. Thus, the trainees recognized correctly all the features.

The same features used to identify entrepreneurship as a method were used at another question related to recognize the entrepreneurship as a process. The responses pre and post training are presented in Table 2.

Table 2

Which of the following features belong to Entrepreneurship as a process (traditional teaching)	Number of responses pre-training	Number of responses post-training
Predictive	30	38
Collaborative	22	22
Action focused	28	12
Iterative	22	27
Linear	30	35
Planning focus	27	33



Phases of learning	24	19
Creative	21	15
Teacher as an expert	28	32

The trainees registered a higher number of responses after the training to all the features that describe correctly the entrepreneurship as a process, considered as a traditional teaching approach such as: **predictive**, **linear** and **planning focus**. The false features decreased consistently in most of the cases.

It was also tested if the trainees could correctly identify the steps of the Design thinking process steps, before and after training. In Table 3, we find the situation before the training.

Table 3 pre-training

The step number	Please put in a chronological order the 5 steps of Design Thinking Process				
	prototype (4)	empathize/ user research (1)	test (5)	ideate (3)	define/ interpretation (2)
	Number of responses	Number of responses	Number of responses	Number of responses	Number of responses
1	0	8	2	42	8
2	4	19	2	10	25
3	13	21	7	7	11
4	25	4	25	0	5
5	18	7	23	1	10
TOTAL	60	59	59	60	59

As we can observe in Table 3, the trainees could identify only two correct places of the design thinking process steps, respectively the second step – *define/interpretation* and the fourth step – *prototype*, both were marked with yellow, respectively with green. All the others steps were wrong places: the first step – empathize/user research was placed as the third one, the third step – ideate was considered to be the first one, and the fifth step was considered as being the fourth one.

As we notice in Table 4, the situation was different after the training.

Table 4 post-training

The step number	Please put in a chronological order the 5 steps of Design Thinking Process				
	prototype (4)	empathize/ user research (1)	test (5)	ideate (3)	define/ interpretation (2)
	Number of responses	Number of responses	Number of responses	Number of responses	Number of responses



1	0	31	1	17	9
2	2	20	3	10	24
3	3	3	6	30	15
4	46	1	7	0	4
5	7	3	41	1	6
TOTAL	58	58	58	58	58

All the design thinking process steps were placed correctly by the trainees, with a high number of responses. The lower number of answers was registered to the second step, only 24, but it is important that was situated on the right place.

In the same questionnaire, another question related to the Design thinking process regards the prototype phase, if it should be rapid or slow. The responses distribution is presented in Table 5.

Table 5

According to Design Thinking process, prototyping phase must be:	Number of responses pre-training	Number of responses post-training
Rapid/low resolution	23	43
Slow/high definition	34	15
TOTAL	57	58

As it could be observed in Table 5, before the training more than 50% of the responses belonging to the **Slow/high definition** option, but after the training, a larger number of the trainees recognize the right option, respectively the **Rapid/low resolution** option.

Another question related to the prototype registered the answers shown in Table 6. This was an open question regarding the purpose of a prototype, thus we may compare their beliefs before the training and after they accumulate knowledge about Design thinking process and prototyping. As we notice, based on the situation from Table 6, after the training the answers were more specific and precise, than they were before the training.

Table 6

What is the purpose of a prototype?	
Pre-training	post-training
testing	paper/plastic/3D/digital model
optimizing	testing
experimentation	optimizing
sample	functionality
model	8visualization of idea
applicability	demonstrates functionality
I don't know	***



In Table 7, there are presented the responses regarding the right parts of the Business Model Canvas.

Before the training, the only part that concentrates more than half of the trainees was the **Key resources**. After the training, all the six parts registered very high results among the trainees. Most of them recognized that all the items are the correct parts of the Business Model Canvas.

Table 7

Which of the following parts belong to Business Model Canvas	No of responses pre-training	No of responses post-training
5.1. Channels	13	58
5.2. Value proposition	16	54
5.3. Key resources	33	54
5.4. Key partners	22	52
5.5. Costs	25	42
5.6. Customer relationships	18	51

In the case of SCAMPER method, Table 8 presents the responses distribution before and after training regarding the right words from which the acronym SCAMPER is formed.

Table 8

S.C.A.M.P.E.R. method is the acronym of which one?	No of responses pre-training	No of responses post-training
Substitute	25	59
Combine	49	59
Adapt	41	59
Modify	47	60
Put to other use	44	58
Eliminate	42	58
Rearrange/ Reverse	43	59

Consistence increase of the number of responses is registered after the training for the correct words that contribute to the acronym SCAMPER. Most of the right words tend to be very close to the maximum number of the trainees. An opposite situation belongs to the wrong words, as it is shown in Table 9 for the answers before and after the training. This time, there is a significant decreasing of the answers, with a tendency to 1 or 0 responses.

Table 9



S.C.A.M.P.E.R. method is the acronym of which one?	No of responses pre-training	No of responses post-training
Social	35	1
Combine	11	1
Adapt	19	1
More	13	0
Put to other use	16	2
Eccentric	18	2
Rearrange/Reverse	17	1

At the question related to the teacher roles in teaching entrepreneurship as a method, the answers obtained are presented in Table 10, before and after the training.

Table10

Which are the roles of teacher in teaching entrepreneurship as a method?	No of responses pre-training	No of responses post-training
Gives instructions	19	17
Facilitates reflection	48	41
Learning from theory and cases	35	29
Two-way communication	33	45
Mistakes are welcomed	26	32
The quality of business plan	16	9

As we can observe in Table 10, the yellow marked roles are those which refer to the teaching entrepreneurship as a method. In two out of the three right roles, the number of responses obtained after the training increased, respectively for “Two-way communication” from 33 answers before to 45 answer after the training and for “Mistakes are welcome” from 26 answers before to 32 answers after the training. Only in one case, the number of answers decreased from 48 before to 41 after the training, but even if it is lower, represents more than 60% from total number of responses.

Another important aspect analysed in the questionnaire is the Empathy map. The results obtained prior and after the training are shown in Table 11, in order to compare them.

Table 11

Empathy map is used to define	No of responses pre-training	No of responses post-training
User’s needs	24	51
User’s pains	11	43



User's favourite things	18	4
User's age	2	5
User's feelings	35	44
User's thinking	32	35

As Table 11 reveals, the trainees understood very well the role and the goal of using Empathy map, because in all four cases, marked with yellow, the number of responses obtained after the training is much higher than before the training. Significant examples are for "User's needs" from 24 answers before the training to 51 after the training, and for "User's pains", from 11 answers before to 43 after the training.

Regarding the questions which encourage users to open up, the answers registered before and after the training are presented in Table 12. As it is shown in Table 12, even before the training the highest number of responses belongs to the "Open questions" option, but after the training, the number of answers increased to this option, from 35 to 47.

Table 12

Which questions encourage users to open up to us	Number of responses pre-training	Number of responses post-training
1. Open questions	35	47
2. Closed questions	1	1
3. Multiple choice	24	9
TOTAL	60	57

In Table 13, we present the answers distribution related to the principles of brainstorming, before and after the training.

Table 13

Which are the principles of brainstorming?	Number of responses pre-training	Number of responses post-training
Assessment of ideas	10	4
Getting most valuable ideas	24	26
Quantity of ideas	30	45
Each idea is valid	29	39
Crazy ideas	35	41
Quality of ideas	14	7

The highest number of answers was given to the three correct principles of brainstorming, before and after the training: *Quantity of ideas*, *Each idea is valid* and *Crazy ideas*. As it could be observed in Table 13, the number of correct answers increased significantly.



Another issue important for entrepreneurship method of teaching is the *Elevator pitch*. When the trainees were asked “*What is elevator pitch?*”, 55% of them knew about the concept, but after the training, their percentage increased to 78.94%, as it can be noticed in Table 14.

Table 14

What is elevator pitch?	Number of responses pre-training	% of the total	Number of responses post-training	% of the total
Speed of conversation	18	30.0%	12	21.1%
Presentation of an idea	33	55.0%	45	78.9%
Misunderstanding in communication	8	13.3%	0	0.0%
N/A	1	1.7%	0	0.0%
TOTAL	60	100.0%	57	100.0%

Usually, there is a tendency to consider that business plan is part of entrepreneurship education, and fewest teachers know about the business model. Thus, another question from Q1 tested the features related to both concepts: *Business plan* and *Business model*. The answers distribution is presented in Table 15, pre and post-training, being marked with green the features related to the business plan and marked with yellow those features that are related to the business model.

Table 15

Items	Number of responses pre-training		Number of responses post-training	
	Which of the following features belong to business plan?	Which of the following features belong to business model?	Which of the following features belong to business plan?	Which of the following features belong to business model?
Analyse	42	20	50	24
Make	35	23	8	55
Calculate	44	12	57	7
Build	24	32	7	53
Watch	22	26	15	42
Change	21	35	15	41
Read	25	26	49	5
Brainstorm	25	30	7	49
Write	41	14	55	6
Re-think	22	33	6	52

As it is shown in Table 15, in both cases, the trainees, in pre-training identified correctly some of the features belonging to the business plan, which is more widely known, but after the training most of them were able to differentiate the features of business model from those



specific to the business plan, in some cases, significantly: the feature “Make” increased from 23 in pre-training– which represents only 38% of the total number of trainees to 55 which means more than 90% out of total.

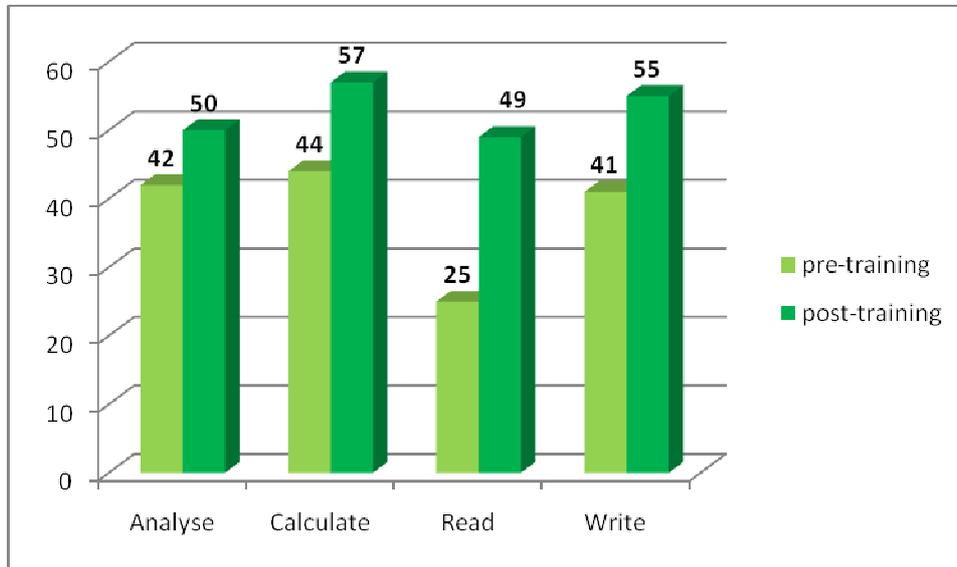


Figure 1

In order to differentiate more clearly the answers given for the most important features related to the **Business plan**, we represent the answers pre and post-training in figure 1, and we noticed that all the features were known by the trainees, because three out of four important features were recognize before the training, and after the training their opinion is more consistent, all the answers tend to the maximum number of trainees.

A similar situation, regarding the features related to Business model is presented in Figure 2.

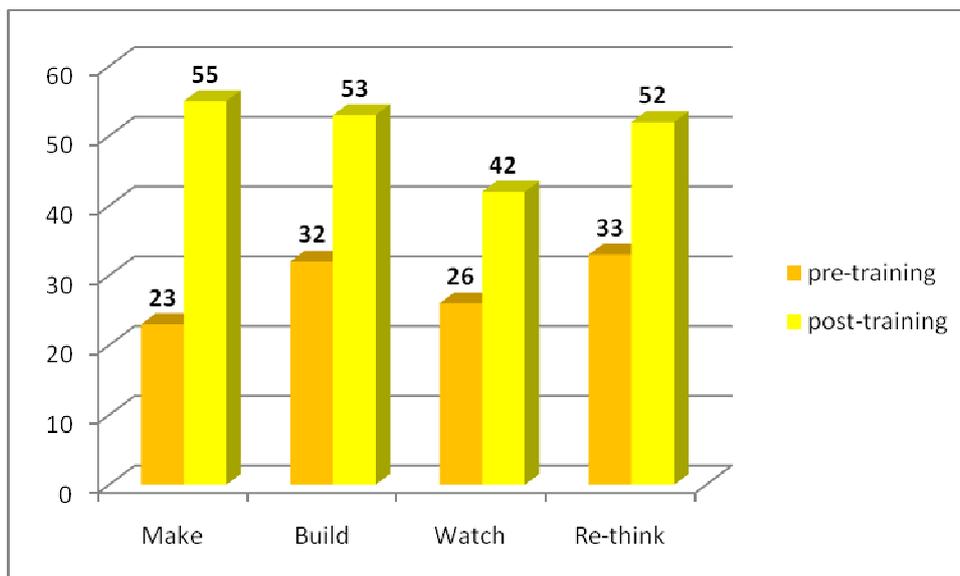




Figure 2

As we noticed in Figure 2, before the training the number of answers for two of the Business model features is less than half of the total, such as “*Make*” and “*Watch*”, and the other two “*Build*” and “*Re-think*” has slightly more than 50% out of total, but after the training, three of the features has more than 85% from the total, and only “*Watch*” feature has 70%.

An open question regarding 3 megatrend themes reveals that all the trainees know about them, as it can be seen in Table 16, based on the answers before and after the training.

Table 16

Write down 3 megatrend themes	
pre-training	post-training
digitization	digitization
demographic change	demographic change
globalisation	gender roles
migration	migration
gender role	new consumption patterns/consumer behaviour/ consumerism
new energy sources/alternative energy	digital innovation
new types of transportation	social economy
climate change	climatic change/pollution/global warming
individualism	changes in the work world
social-economy	globalisation

The first two megatrend themes are presented in both cases, before and after the training, and then more specific themes appeared, after the training, as it can be noticed in Table 16, such as new consumption patterns, consumer behaviour, consumerism, changes in the work world, digital innovation.

Another open question was related to the main way to characterize innovation. The answers before and after training are presented in Table 17.

Table 17

Innovation can be characterized in the following four ways	
pre-training	post-training
new product, design, technology, idea	breakthrough
research	creativity
creativity	research
novelty	improvement
change	new products, technology



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There is an important difference between the answers before and after the training, even if some of them are the same, such as “creativity”, “research”, “new product” or “technology”, but there are new terms, much more suitable with innovation, as “breakthrough” or “improvement”.



❖ *Results regarding the teaching methods, strategies & active pedagogy- pre and post-training – questionnaire Q3*

In training the trainers there should be an evaluation of methods and type of pedagogy and strategy used to transfer the knowledge from the trainer to the trainees. This is the aim of this questionnaire.

In Figure 3, we present the score registered for the type of teaching pedagogy methods preferred by teachers, before and after the training.

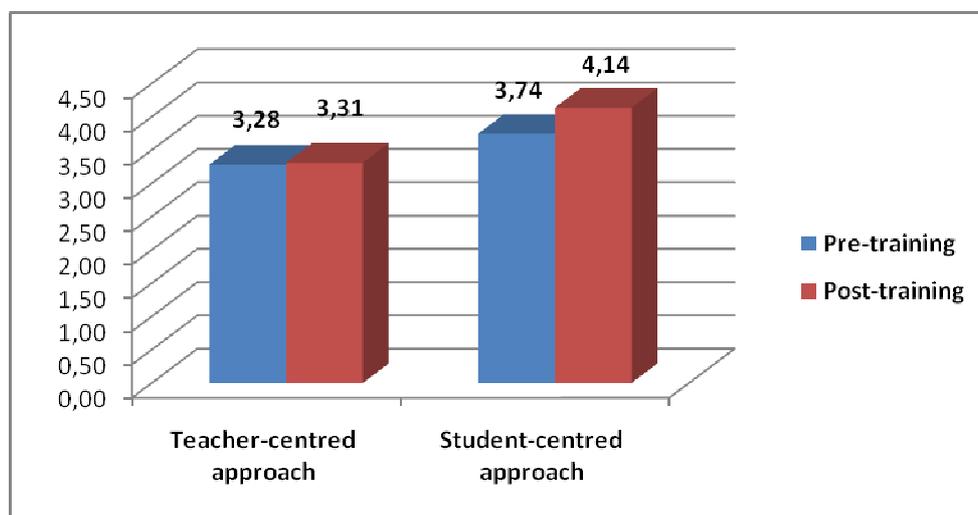


Figure 3

As we can noticed from Figure 3, teachers did not change significantly the teacher-centred approach after the training, the score is slightly higher, which means that teachers prefer to give direct instructions, to delegate tasks to the students, ex-cathedra activities, lectures. Whilst, in student-centred approach case, the difference between the score before and after the training is higher, from 3.72 to 4.14, which means that teacher is a facilitator or demonstrator, giving differentiated instructions, allowing students to work on their own, providing support, encouraging students to learn, ask questions in a great extent.

For many other items, the score registered a lower level after the training, as could be noticed in Figure 4.

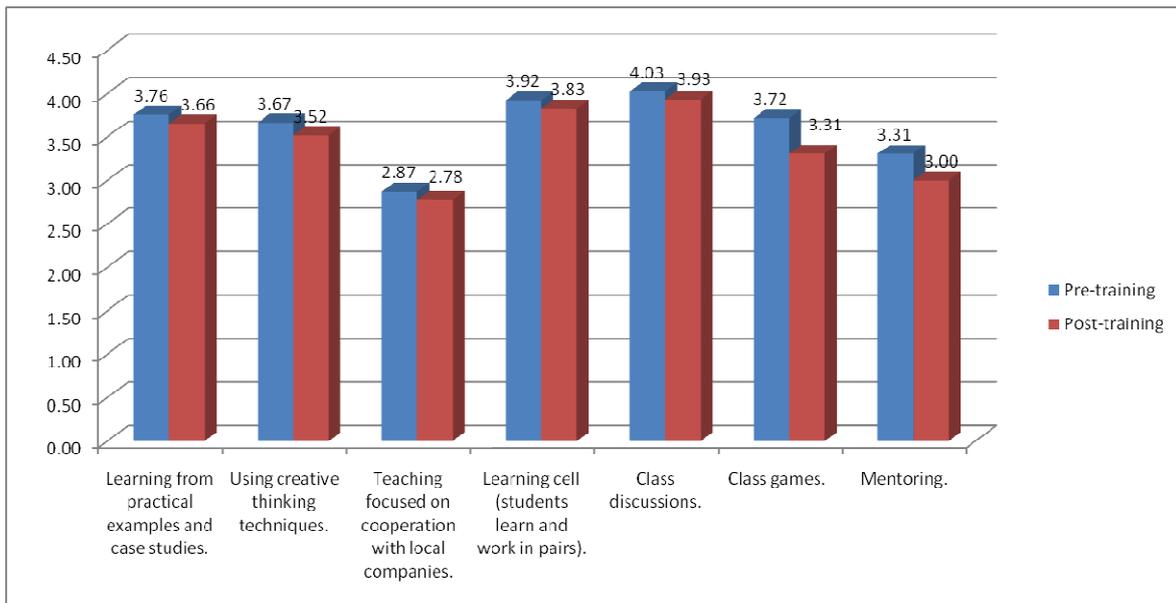


Figure 4

There are others items with higher score after the training, but only one over 4 items that are related to the relationship with students, as can be noticed in Figure 5.

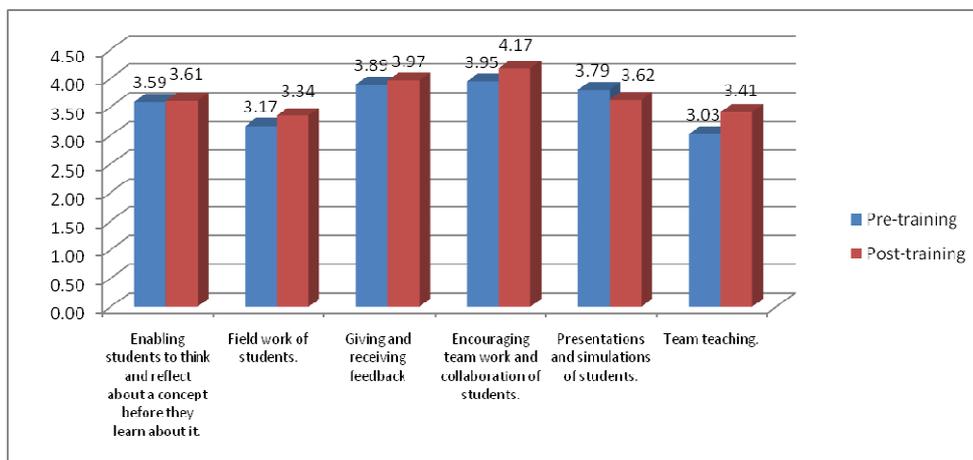


Figure 5

Thus, the items regarding the teaching strategies have improved, in most of the cases after the training.



❖ *Results for evaluation the training for teachers as trainers – questionnaire Q4*

In order to evaluate the entire training, it is necessary to analyse the main aspects related to the training sessions, the trainers and the perception on overall activities. After the training a questionnaire was apply, and the most important results are revealed in Figure 6.

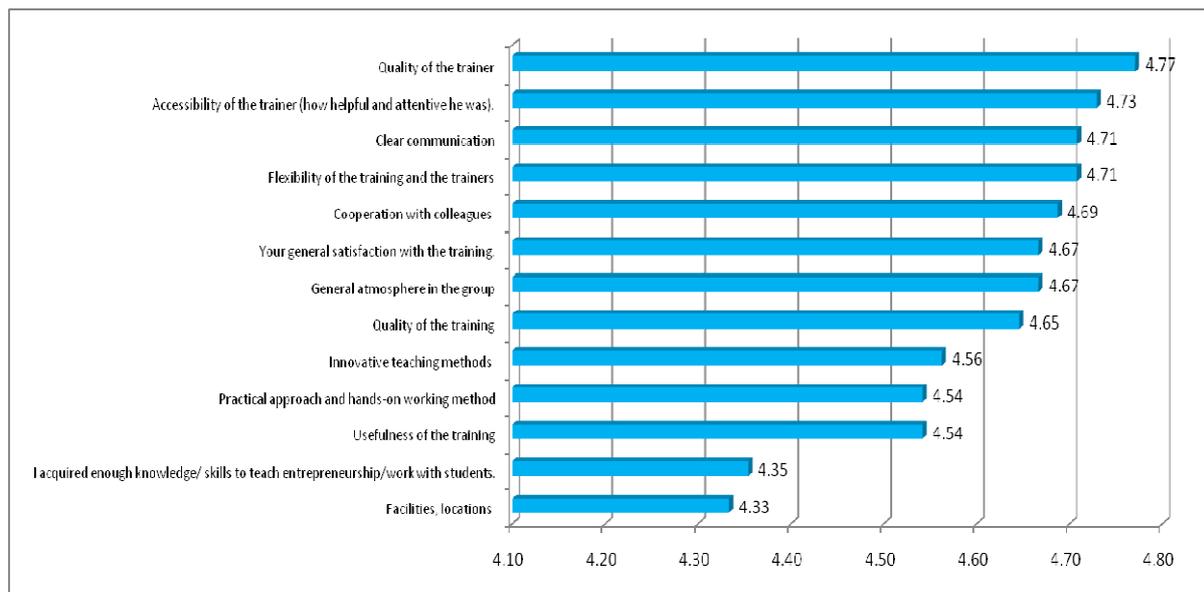


Figure 6

As it can be noticed in Figure 6, the level of satisfaction is very high, as all the questions are scored more than 4.3. The most appreciated aspect was the quality of the trainer with 4.77 out of maximum 5, followed by the accessibility of the trainer, 4.73, and on the third place are situated others two items connected to the trainer activity: the clear communication, referring to the communication of trainers, understanding, and the flexibility of the training and the trainers, both ranked with the same score: 4.71. With such high scores, for aspects related to the trainers and their flexibility and ability to communicate with the trainees, we may conclude that the training sessions in all countries involved were a real success. There were also appreciated by the trainees others aspects regarding the innovative teaching methods and the practical approach and hands-on working methods, both ranked with scores over 4.5.

This questionnaire includes open questions, in order to give the opportunity to trainees to express their own impressions about the training. From this perspective, at the question *What were your favourite aspects of the training?*, the top three common answers were as follows: *application of the theoretical on the field, tasks were interesting and dynamic, interviewing people*. At the opposite side is situated the next question: *What were your least favourite aspects of the training?* This time, the frequent answers were such as: *there are no such*



aspects and *limited time*. As to the question: *If you have any other comments, ideas, suggestions, please share them with us*: the most interesting and useful answer was: *“starting with scamper method might help students to create ideas”* which could be taken into consideration for further projects or trainings in this field.

❖ **Result regarding the students training session – questionnaires Q5 and Q6**

The peak of the entire project was the training for students, they being the last and most important beneficiary of the project. Questionnaire Q5 evaluates teachers’ perceptions of the training applied to the students, and questionnaire Q6 evaluates the students’ perception of the training applied to them. Q5 and Q6 are questionnaires built in a mirror way, with same items in order to compare the perception of both parts involved in the process: teachers and students.

At the question *How much knowledge about particular topic have the students gained?*, the scores registered are presented in Table 18. The scores vary between 3.90 and 4.50, which could be considered high to very high level. The topic order from the Table 18 respects the order from the curriculum.

Table18

<i>How much knowledge about particular topic have the students gained?</i>	Score
What is entrepreneurship	4.40
Contemporary trends	4.35
Innovative thinking and crazy ideas	4.35
Learning about the customer	4.25
Field work	3.90
Understanding the data and market	4.25
Generating ideas	4.45
Prototyping	4.30
Storytelling	4.40
Business model canvas	4.45
Team roles	4.25
Presentation of business idea	4.50

As Table 18 shows, the highest ranked topic gained by the students, from teachers’ perception was the ***Presentation idea***, with 4.50 score. The lower score registered, under 4 was 3.90 for the ***Field work***, a possible explanation could be that the teacher did not follow all the students at this activity, thus they could not entire evaluate the knowledge gained by the students. From teachers’ point of view, the highest ranked topics were as follows: ***What is entrepreneurship, Storytelling, Generating ideas, Business model canvas***. We may consider all the score at a high level; if we take into account that only one topic has the score under 4.



The question related to *How much did the students improve a specific skill?*, the results are slightly different, as can be seen in Table 19. This time, the scores vary between 3.95 and 4.65, thus also one of the scores is less than 4. Teachers' perception is that students improved mostly, after this training, the *Communication with the teacher*, ranked with 4.65, aspect which reveal the fact that the pedagogical methods used during this training were different than those used prior the training and more efficient. Secondly, they improved the *Communication with other students*, ranked by the teacher with 4.45. Thirdly, it is situated the *Storytelling*, with 4.40, the same rank obtained by the *Team work skills*. The lowest score corresponds to *Self-initiative* – 3.95. Others low scores correspond to *Field work and analysis* – 4.00, and *Understanding the customer* – 4.05. These last two skills are difficult to be deeply understood by students, after only one training, and the teachers' perception could be correct, taking into consideration all the factors implied.

Table 19

<i>How much did the students improve a specific skill?</i>	Score
Identifying a problem or a challenge	4.20
Being able to solve a problem, address a challenge	4.20
Being able to develop different ideas and solutions	4.20
Creativity skills	4.25
Communication with other students	4.45
Communication with teacher	4.65
Communication with representatives of local companies	4.15
Presentation skills	4.15
Team work skills	4.40
Field work and analysis	4.00
Understanding the customer	4.05
Being able to create business model canvas	4.20
Self-initiative	3.95
Persistence	4.15
Flexibility	4.25
Storytelling	4.40

Questionnaire Q6 reveals students' point of view related to the training effects on their knowledge and their skills. The students' scores regarding the knowledge gained after the training are presented in Table 20.

Table 20

<i>How much knowledge about particular topic have you gained?</i>	Score
What is entrepreneurship	4.01
Contemporary trends	3.92
Innovative thinking and crazy ideas	4.02
Learning about the customer	4.10
Field work	3.93



Understanding the data and market	3.97
Generating ideas	3.98
Prototyping	3.97
Storytelling	3.80
Business model canvas	3.80
Team roles	4.07
Presentation of business idea	4.11

The scores vary between 3.80 and 4.11 for the students' perception about the knowledge gained after the training, and there are more scores under 4 than over it. There are 7 scores less than 4, and only 5 higher than 4. Thus, they tend to a level that could be considered good to very good, but slightly far from excellent. What students consider they gained as knowledge after this training, based on the scores registered, in a decreased order, are as follows: *Presentation of business idea* - 4.11, *Learning about the customer* -4.10, *Team roles* – 4.07, and also with a score over 4 are situated: *Innovative thinking and crazy ideas* – 4.02, and *What is entrepreneurship* -4.01. The last lower score were obtained by *Storytelling* and *Business model canvas*, both with 3.80.

If we refer to the specific skills improved after the training, students' scores are presented in Table 22, and they vary between 3.77 and 4.15.

Table 22

<i>How much did the students improve a specific skill?</i>	Score
Identifying a problem or a challenge	3.92
Being able to solve a problem, address a challenge	3.99
Being able to develop different ideas and solutions	4.04
Creativity skills	4.14
Communication with other students	4.00
Communication with teacher	4.12
Communication with representatives of local companies	3.77
Presentation skills	3.93
Team work skills	4.05
Field work and analysis	3.86
Understanding the customer	4.02
Being able to create business model canvas	3.84
Self-initiative	3.92
Persistence	3.94
Flexibility	4.15
Storytelling	3.91



As Table 22 shows, the top three scores for students' skills improved after the training, based on the obtained scores, are as follows: *Flexibility* – 4.15, *Creativity skills* – 4.14, and *Communication with teacher* - 4.12. Scores over 4 were registered by: *Team work skills* - 4.05, *Being able to develop different ideas and solutions* – 4.04, *Understanding the customer* – 4.02, and *Communication with other students* – 4.00. The lowest score correspond to *Communication with representatives of local companies* – 3.77, which could mean that they did not interact sufficiently with them, or the representatives did not have enough communication skills adapted to the students' level of understanding or the way they approached the students.

Another perspective of these results could be comparing the teachers' scores with the students for both analysed aspects: knowledge gained and skills improved after the training.

The top five knowledge gained topic in students' perception, with scores higher than 4, compared with correspondent topic on teachers' perception are presented in figure 7.

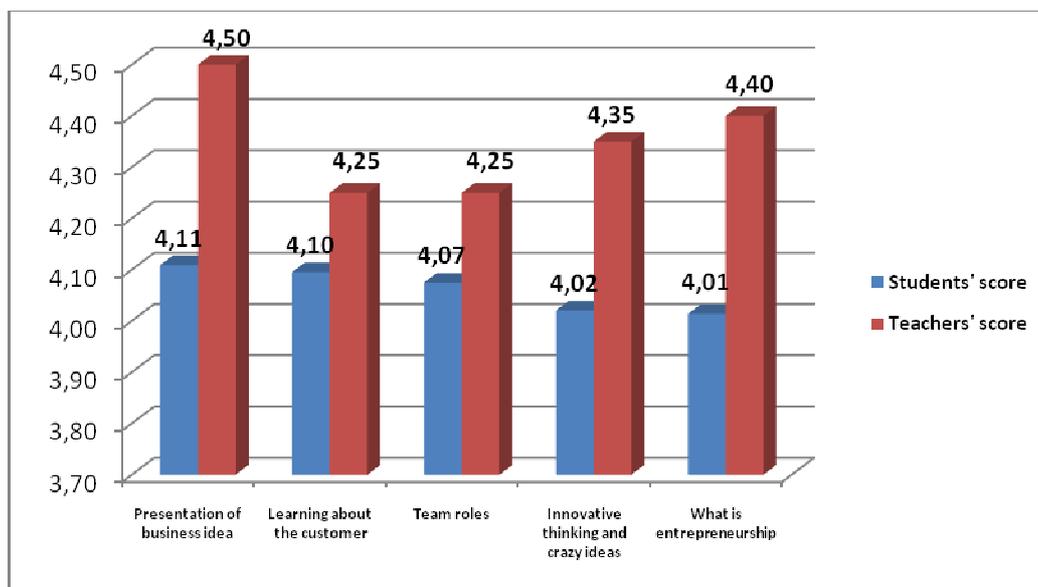


Figure 9

Based on the scores shown in Figure 9, the perception of students and teachers differ significantly. Even if the higher score correspond to the same topic *Presentation of business idea* for both students and teachers, the difference is quite important from 4.11 in students' case to 4.50 in teachers' case, highly upper, and maybe overrated. The last from top five for students is the topic *What is entrepreneurship* – 4.01, whilst for teachers it was ranked with the second highest score – 4.40, another significant difference.

The scores lower than 4 obtained by students for knowledge gained topic are presented in Figure 10.

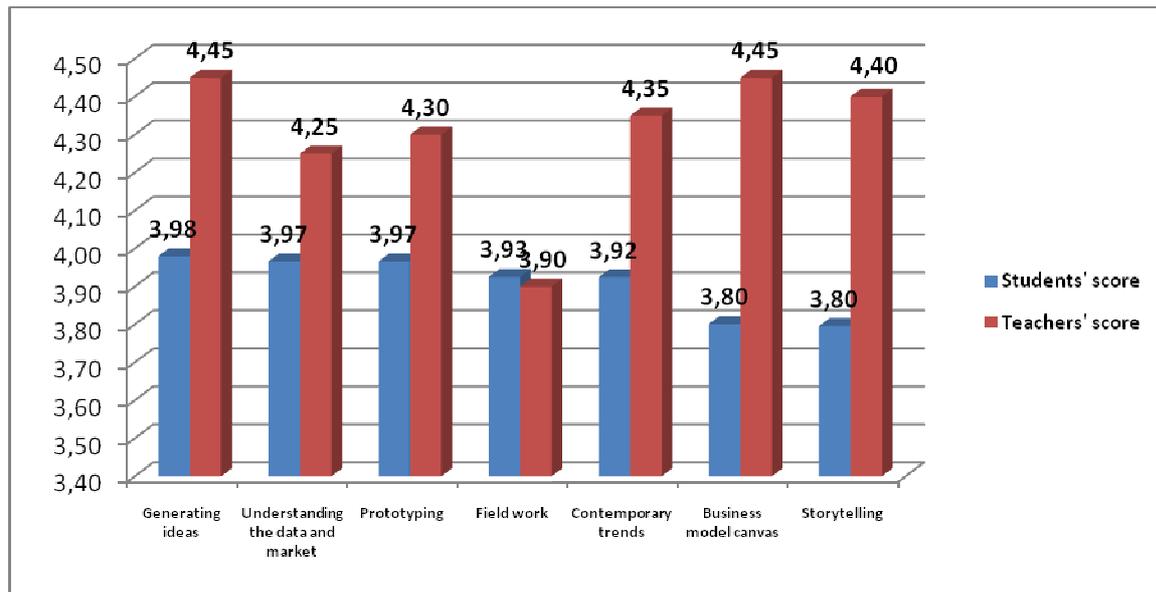


Figure 10

As we can observe in Figure 10, the difference between the students' perception and teachers' became deeper and deeper, thus the teachers' tendency is to overrate again the knowledge gained by their students. Only one topic has similar score: *Work field*, 3.93 for students and 3.90 for teachers, being the singular case when the teacher score is lower than the students'. The highest differences from the two points of view, students and teachers, were determined for *Business model canvas* and *Storytelling*: 3.80 students' score for both topics, and 4.45, respectively 4.40 teachers' score, two of the highest teachers' score. The perceptions of the two parts involved differ significantly, and it shows that they did not evaluate similarly these issues. If we compare scores with an ordinal scale, the students' perception is situated at "good" to "very good", whilst for teachers; the perception tends to "very good".

The skills improved after the training, ranked over 4 by students and the correspondent teachers' scores are shown in Figure 11. The first observation is that in students' case the scale varies in an interval at only - 0.15, and for teachers the interval is larger – 0.60, aspects that underline the different perception of the two parts, students considering they improved those skills in a similar way; teachers considering that some of the skills were highly improved than others.

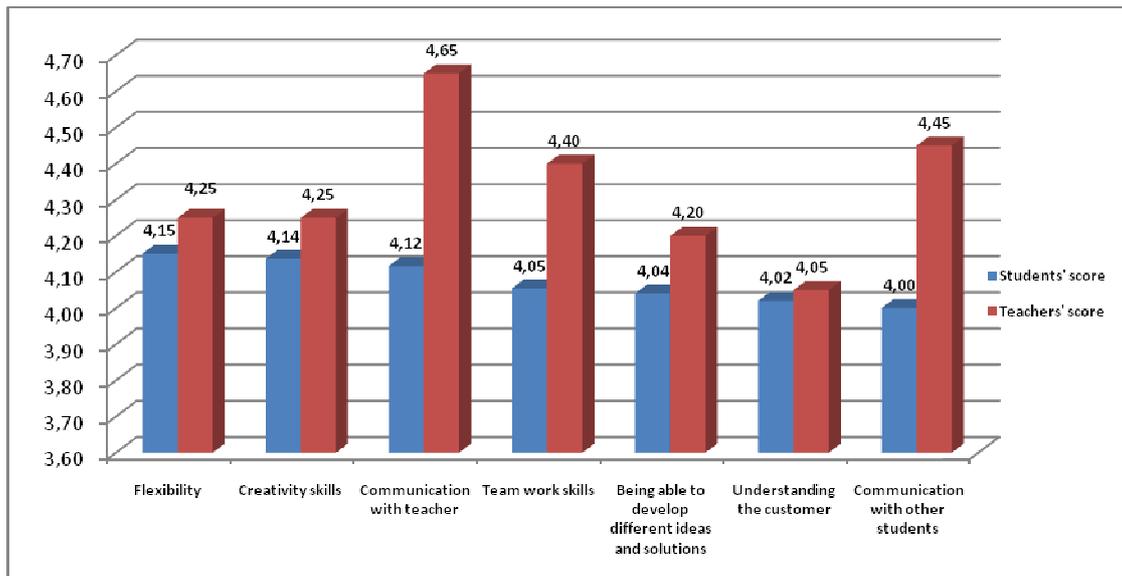


Figure 11

Flexibility – scored 4.15 was chosen by students as being the most improved skill, followed by **Creativity** – scored very close to the previous, 4.14, and the third one being **Communication with teacher** – scored 4.12. Understanding the customer was ranked with similar score by students and teachers, 4.02, respectively 4.05. An important difference between students' and teachers' score was registered by the **Communication with other students**, only 4.00 in students' case and 4.45 in teachers' case.

The skills ranked under 4 by students and the correspondent score of the teachers are presented in Figure 12. The observation from the top ranked can be kept for the last ranked skill as well, because in this second case, the students' scale varies in an interval equal with 0.22, and for teachers, this time, the interval is 0.45, aspects that allows us to maintain the idea of a different perception of the two parts, students considering they improved those skills in a similar way; teachers considering that some of the skills were highly improved than others.

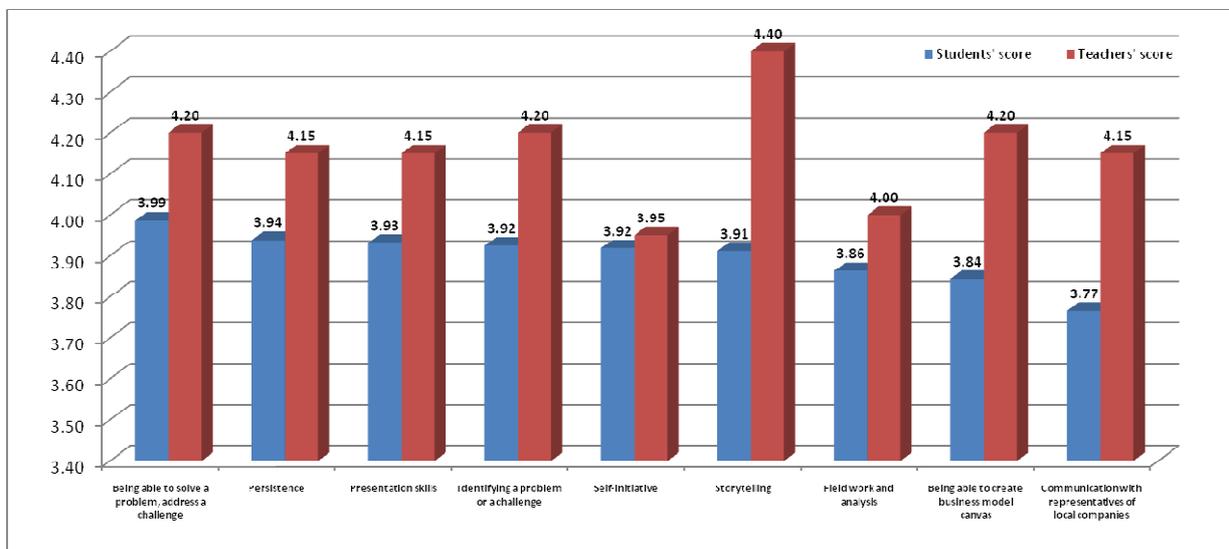




Figure 12

In this case, the biggest difference between students and teachers scores belongs to the skill **Storytelling**, as students ranked it with 3.91 and teachers with 4.40 - for them being one of the highest score. On the last place was situated for students the skill **Communication with representatives of local company** – 3.77, whilst for teachers the last one was **Self-initiative** – 3.95. This skill **Self-initiative** is ranked similarly by both students and teachers. In all cases, teachers registered higher scores for all the skills taken into consideration to be improved during this training.

Another way to analyse the knowledge gained and the skills improved by the students is to take into consideration the results on each country. Thus, based on the country scores, we obtained a situation regarding the highest knowledge gained by the students, as we can observe in Figure 13.

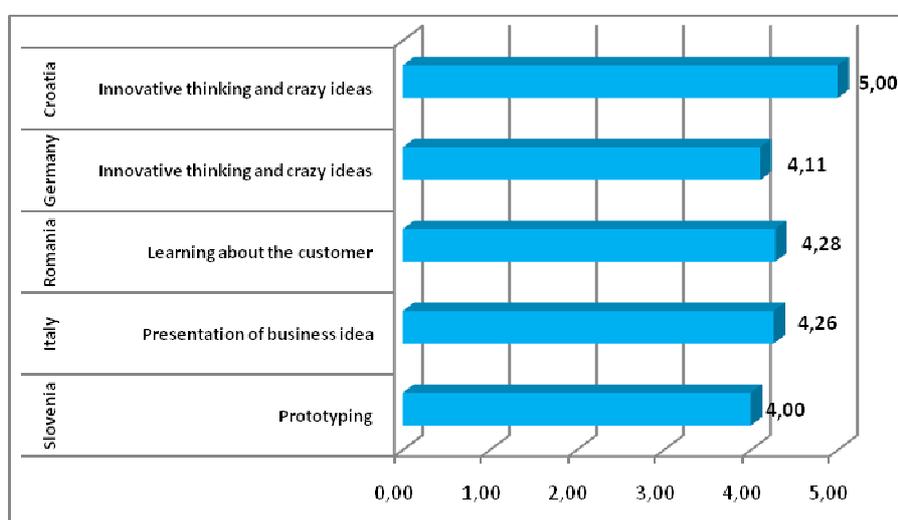


Figure 13

Regarding the knowledge gained about a particular topic, only in the case of two countries, we noticed that the same topic was considered to be the most important: **Innovative thinking and crazy ideas**, ranked in Croatia with the maximum score – 5.00, and in Germany with 4.11. Slovenia registered the lower score from all five countries, 4.00 and it belongs to **Prototyping topic**. The interval between the highest and the lowest score for the first knowledge topic is exactly 1, as the lowest, as it was already mentioned belong to Slovenia – 4.00, and the highest belong to Croatia – 5.00. Italy has the same knowledge gained about a specific topic as the overall analysis: **Presentation of business idea**.

At the opposite place, there are situated the topics with the lowest scores in each country, as it can be observed in Figure 14.

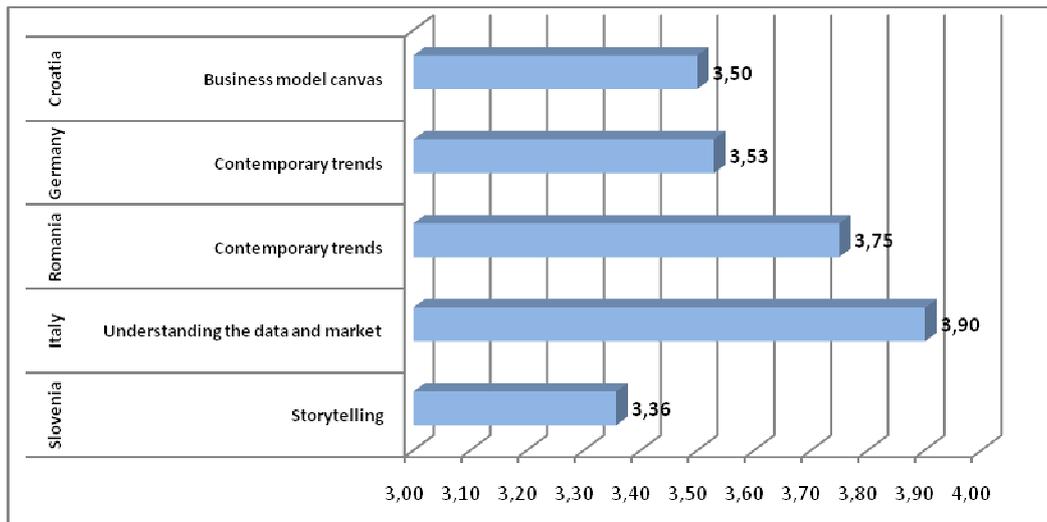


Figure 14

As to the lowest scores about the knowledge gained by the students in each country, we can notice from Figure 14 that the interval between the bigger and the smaller score is reduced compared to the first topic analysed in Figure 13. This time, the interval is only 0.54, almost half than the previous situation, aspect that could be explained by a correct appreciation of the place occupied by this last topic. We have the same last placetopic in two countries: *Contemporary trends* in Germany with the score -3.53, and Romania with the score 3.75. In Italy case we observed the highest score – 3.90 obtained by *Understanding the data and the market*, considered as less clear for Italian students. Surprisingly, the last placed topic in Croatia was *Business model canvas*, score 3.50. There are two topics which were situated on the last places at overall analysis, and they are also present in Figure 14: *Business model canvas* for Croatia and *Storytelling* for Slovenia.

The highest ranked skills improved after the training is different in each country, as it is shown in Figure 15. An interesting issue related to the scores registered by the five countries, we can notice that four out of five have very similar scores, varying in a small interval, from 4.16 to 4.20, thus the difference is only 0.04, meanwhile another country has a gap of 0.8 or more than the others. For some countries, the skill presented in Figure 15 has a great link with entrepreneurship skills, such as *Storytelling* – Germany, *Self-initiative* – Romania, *Flexibility* – Slovenia. At the same time, *Flexibility* was the highest ranked skill at the overall analysis. For this particularly project, an important skill was for Croatia *Communication with representatives of local* companies, which was ranked with the highest score as well – 5.00.

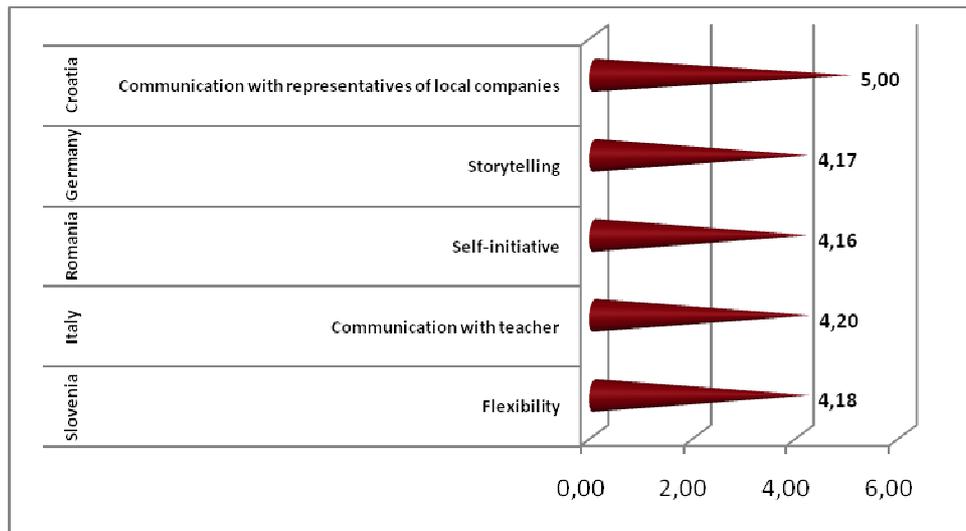


Figure 15

The lowest ranked skills improved after the training is different in each country, as it is shown in Figure 16. In the case of three countries: Germany, Romania and Slovenia the score is very similar, varying between 3.47 and 3.50, but there are different skills chosen, such as: *Persistence* for Germany, *Communication with representatives of local companies* for Romania and *Field work and analysis* for Slovenia. Only one country has the score higher than 4, Croatia and the skill improved is *Storytelling* – 4.13.

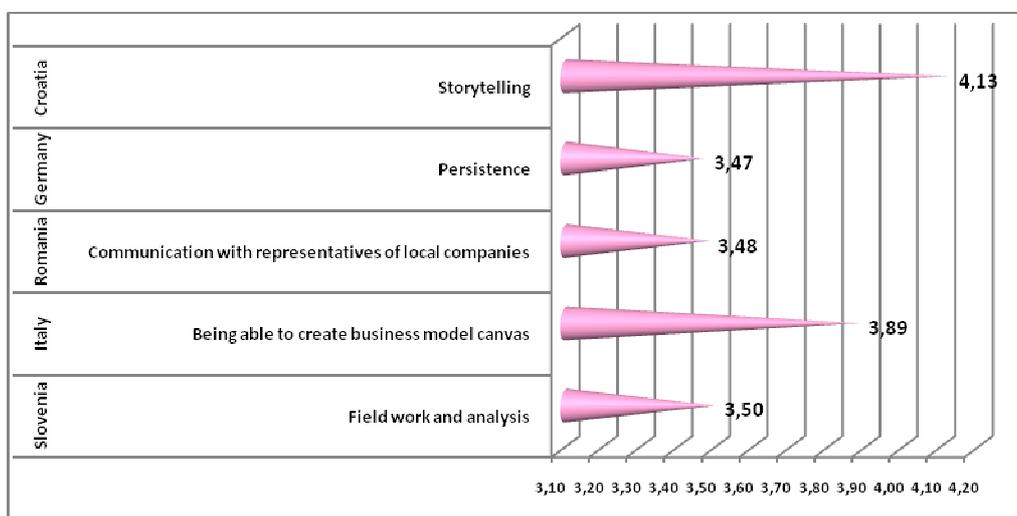


Figure 16

At the same time, *Communication with representatives of local companies* has being ranked with the lowest score at the overall analysis, thus Romania correspond with it.

At the open question *Which methods and exercises did you like the most?* The most common answer given by the students was *Creating the prototype*, followed by *Business model canvas* and then by *SCAMPER*. Othersexamples were: *Generate ideas* and *Brainstorming*.



❖ *Results of the questionnaires Q7 and Q8 regarding effective learning environment, applied for teachers and students*

There are several important aspects related to the learning process that must be analysed at the end of the process. Thus, in Figure 17, there are presented general aspects related to the learning process from both students' and teachers' perspective.

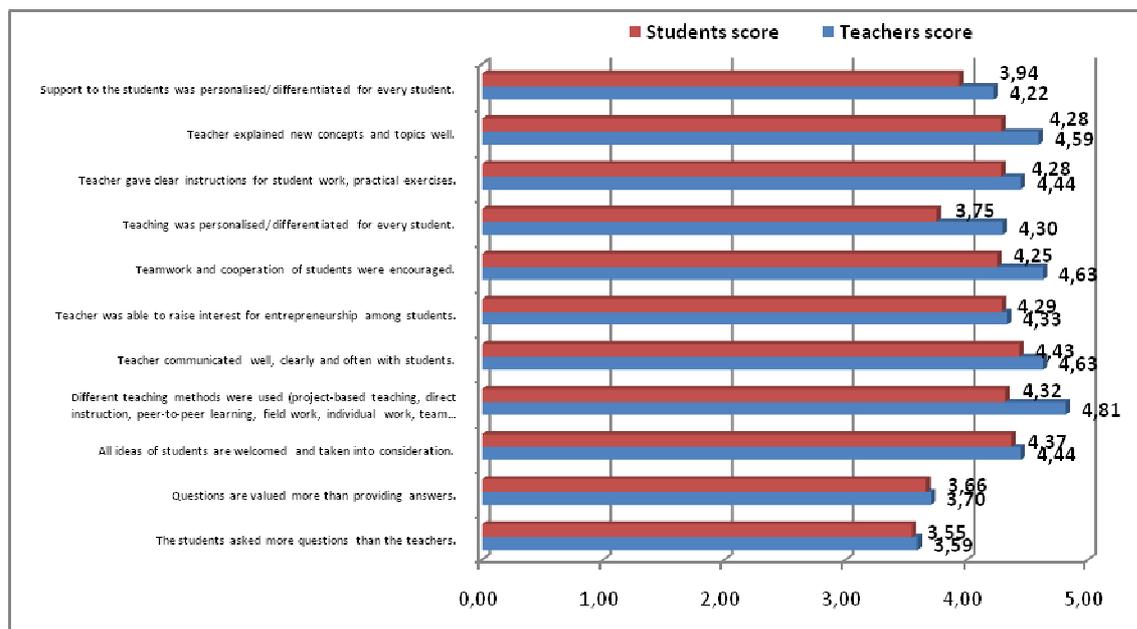


Figure 17

This time, as we can observe in Figure 17, the differences between students and teachers opinion are not so significant, as it happened in the previous analysis. Their rank is quite similar for most of the items considered. Their opinions went in the same direction, and were very close in the following cases: ***The students asked more questions than the teachers, Questions are valued more than providing answers, All ideas of students are welcome and taken into consideration.*** A higher difference of perception, with an interval bigger than 0.5 was registered only in two cases: ***Teaching was personalised/differentiated for every student*** – students were not so confident as their teacher about this aspect, and ***Different teaching methods were used*** (project-based teaching, direct instruction, peer-to-peer learning, field work, individual work, team work, creative techniques etc.) with the same tendency as the previous one. A common aspect that could be notice in Figure 17, that in all cases teachers' score is higher than the students'.

Regarding the aspects about students in the learning process, we obtained different perceptions again, as it is shown in Figure 18. Besides the fact that teachers overrated again all the items considered, students were more cautious about the fact that they were able to



carry out properly their field work, or having enough time to work on their projects, whilst teachers were more confident about these aspects, the score being close to 4.5, and for students less or only around 4.

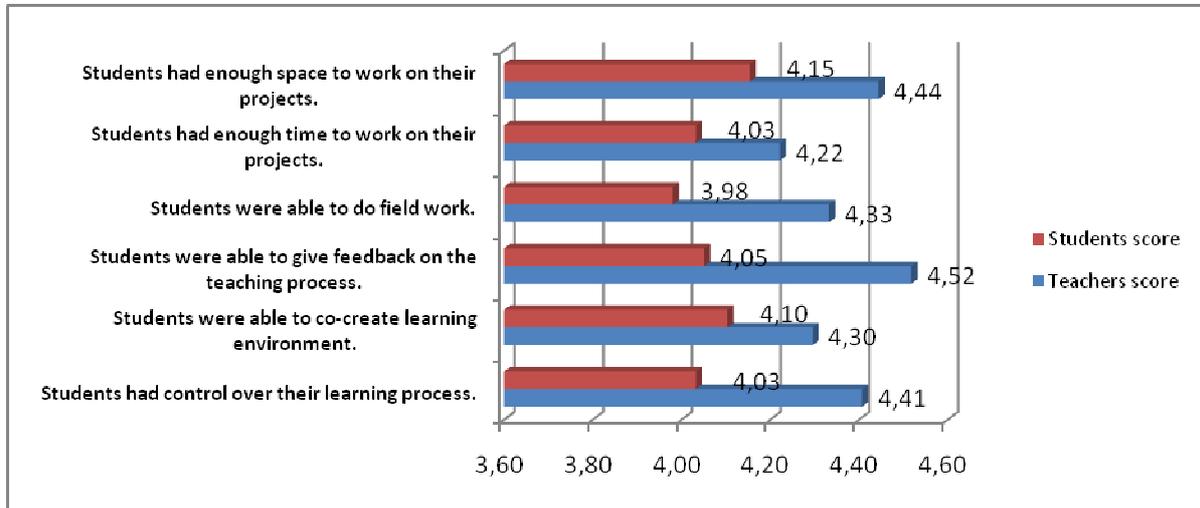


Figure 18

At the question if teacher was able to explain well and clearly the main subjects of the course, the scores registered for students and teachers are presented in Figure 19.

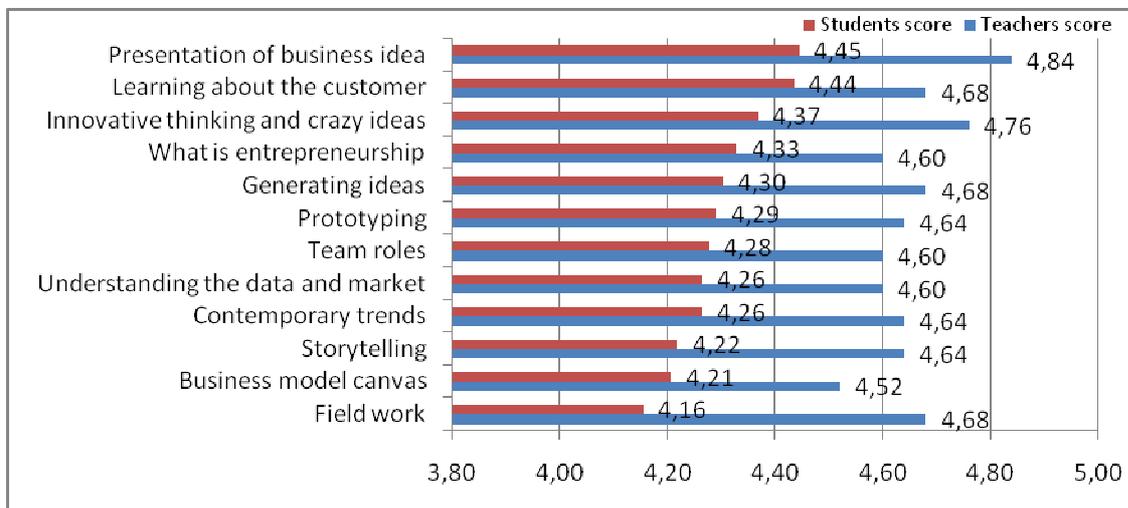


Figure 19

The pattern is the same as it was in the previous analysis: teachers ranked higher than students all the issues. More than that, the lowest ranked aspect by the students **Field work** - 4.16 has one of the highest score for teachers – 4.68. A positive aspect is related to the highest students’ score – 4.45 **Presentation of business idea**, which has the highest score for teachers as well, but much higher, being 4.84, so there is a common perception for both parts regarding the clarity and the explanation of teachers.



Being asked *Is it important for students to learn entrepreneurship?* the answers went in the same direction: they agree completely that students definitely need entrepreneurship education.

Conclusions

The trainees could identify only two correct places of the design thinking process steps, respectively the second step – *define/interpretation* and the fourth step – *prototype*. All the others steps were wrong places: the first step – empathize/user research was placed as the third one, the third step – ideate was considered to be the first one, and the fifth step was considered as being the fourth one.

All the design thinking process steps were placed correctly by the trainees, with a high number of responses. The lower number of answers was registered to the second step, only 24, but it is important that was situated on the right place.

Regarding the right parts of the Business Model Canvas, before the training, the only part that concentrates more than half of the trainees was the **Key resources**. After the training, all the six parts registered very high results among the trainees. Most of them recognized that all the items are the correct parts of the Business Model Canvas.

Regarding the questions which encourage users to open up, even before the training the highest number of responses belongs to the “Open questions” option, but after the training, the number of answers increased to this option, from 35 to 47.

Another issue important for entrepreneurship method of teaching is the *Elevator pitch*. When the trainees were asked “*What is elevator pitch?*”, 55% of them knew about the concept, but after the training, their percentage increased to 78.94%.

Usually, there is a tendency to consider that business plan is part of entrepreneurship education, and fewest teachers know about the business model. Thus, another question from Q1 tested the features related to both concepts: *Business plan* and *Business model*. The trainees, in pre-training identified correctly some of the features belonging to the business plan, which is more widely known, but after the training most of them were able to differentiate the features of business model from those specific to the business plan, in some cases, significantly: the feature “Make” increased from 23 in pre-training – which represents only 38% of the total number of trainees to 55 which means more than 90% out of total.

Teachers did not change significantly the teacher-centred approach after the training; the score is slightly higher, which means that teachers prefer to give direct instructions, to delegate tasks to the students, ex-cathedra activities, lectures. Whilst, in student-centred approach case, the difference between the score before and after the training is higher, from 3.72 to 4.14, which means that teacher is a facilitator or demonstrator, giving differentiated



instructions, allowing students to work on their own, providing support, encouraging students to learn, ask questions in a great extent.

Regarding the knowledge gained about a particular topic, after the workshops, only in the case of two countries, we noticed that the same topic was considered to be the most important: *Innovative thinking and crazy ideas*, ranked in Croatia with the maximum score – 5.00, and in Germany with 4.11. Slovenia registered the lower score from all five countries, 4.00 and it belongs to *Prototyping topic*. The interval between the highest and the lowest score for the first knowledge topic is exactly 1, as the lowest, as it was already mentioned belong to Slovenia – 4.00, and the highest belong to Croatia – 5.00. Italy has the same knowledge gained about a specific topic as the overall analysis: *Presentation of business idea*.

The highest ranked skills improved after the training is different in each country. An interesting issue related to the scores registered by the five countries, we can notice that four out of five have very similar scores, varying in a small interval, from 4.16 to 4.20, thus the difference is only 0.04, meanwhile another country has a gap of 0.8 or more than the others. For some countries, the skill presented in Figure 15 has a great link with entrepreneurship skills, such as *Storytelling* – Germany, *Self-initiative* – Romania, *Flexibility* – Slovenia. At the same time, *Flexibility* was the highest ranked skill at the overall analysis. For this particularly project, an important skill was for Croatia *Communication with representatives of local* companies, which was ranked with the highest score as well – 5.00. The first observation is that in students' case the scale varies in an interval at only - 0.15, and for teachers the interval is larger – 0.60, aspects that underline the different perception of the two parts, students considering they improved the skills in a similar way; teachers considering that some of the skills were highly improved than others.

Regarding the aspects about students in the learning process, we obtained different perceptions again. Besides the fact that teachers overrated again all the items considered, students were more cautious about the fact that they were able to carry out properly their field work, or having enough time to work on their projects, whilst teachers were more confident about these aspects, the score being close to 4.5, and for students less or only around 4.

As a conclusion, the students had a positive attitude when they were asked about their opinion on entrepreneurial workshops and the learning process. The most frequent answers are presented in Table 23.

The ideas expressed by the students are very interesting. Even though one of the students, being aware about the knowledge acquired and the skills improved, would rather prefer to start his first job in an established company, the answers show many benefits they got after this course, thanks to this project. They became more aware about the possibilities out there to develop themselves, they learnt how to generate new ideas, how they can become self-employed, to distinguish the routine activities within a company and the specific activities of a new business idea. Every student's conclusions are valuable for teachers, for trainers, for themselves, for further approaches of entrepreneurship education.



Table 23

<i>What is your opinion about entrepreneurial workshops and the learning process?</i>
The workshops were interesting and useful. It is important to teach entrepreneurship because there will be more innovation in future.
I liked the most exercises for boosting creativity and expressing opinion and ideas.
It is important to learn entrepreneurship in modern world, I liked the most teamwork and fieldwork.
Because there are more and more people succeeding in entrepreneurship, I believe it's important to start early.
In my opinion the workshop was very good and informative. I think it's very important for young students to learn a lot about companies, because a lot of them want to become self-employed
It is important to attend such a workshop to learn something new
It prepares you for the days when you'll have to make money. It's a good all life skill.
It was exciting to me because I got an impression how you found a company or rather what a business idea looks like
It's rarely you get an opportunity like this, so they should use it.
learnt very good approaches about self-employment
I think it would be useful to know about entrepreneurship, but I think I would rather start my first job in an established company.



Annexes

QUESTIONNAIRE FOR TEACHERS AT LOCAL TRAININGS – Pre-training/Post-training – Q1/Q2

CODE (first letter of mother's name and surname and her birthday in day and month): _____

DATE AND PLACE: _____

1. Which of the following features belong to Entrepreneurship as a method (contemporary teaching), and which ones belong to Entrepreneurship as a process (traditional teaching)? Please select.

	Entrepreneurship as a method	Entrepreneurship as a process
Predictive	☺	☺
Collaborative	☺	☺
Action focused	☺	☺
Iterative	☺	☺
Linear	☺	☺
Planning focus	☺	☺
Phases of learning	☺	☺
Creative	☺	☺
Teacher as an expert	☺	☺

2. Write down 3 megatrend themes:

3. Innovation can be characterized in the following four ways:

4. Please put in a chronological order the 5 steps of Design Thinking Process.
Please write numbers 1 to 5 under each step (1 being the first step, 5 being the last step).



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prototype

**empathize/user
research**

test

ideate

define/interpretation



10. Choose megatrends that will influence global affairs in the long run. Please underline your choices.

- | | | |
|--|--|---|
| More competitive methods of working | The creative class as the new global elite | Growing importance of collaborative consumption |
| Individualism | Do-it yourself economics | Intelligent logistic solutions |
| Smaller differentiation between digital lifestyles | Rapid development and increase of mass markets | Growing importance of traditional families |

11. Which questions encourage users to open up to us (select one):

1. Open questions 2. Closed questions 3. Multiple choice

12. Which are the principles of brainstorming? Please underline your choices.

- | | | |
|---------------------|-----------------------------|-------------------|
| Assessment of ideas | Getting most valuable ideas | Quantity of ideas |
| Each idea is valid | Crazy ideas | Quality of ideas |

13. What is the purpose of a prototype? Name 3 categories of prototypes when we talk about the purpose of a prototype.

14. What is elevator pitch?

1. Speed of conversation communication 2. Presentation of an idea 3. Misunderstanding in

15. Which of the following features belong to business plan and which ones to the business model?

Please select.

	Business plan	Business model
Analyse	☺	☺
Make	☺	☺
Calculate	☺	☺
Build	☺	☺
Watch	☺	☺
Change	☺	☺
Read	☺	☺
Brainstorm	☺	☺



Write



Re-think



QUESTIONNAIRE – TEACHING METHODS, STRATEGIES & ACTIVE PEDAGOGY – Teachers – Q3

CODE: _____

DATE AND PLACE:

16. Please rate to what extent are you using the following teaching methods or strategies in your classes in general. Use the scale from 1 to 5:

1 = I have never used this method

2 = I used it only a couple of times

3 = I use it occasionally

4 = I use it quite a lot

5 = I regularly use it

Teacher-centred approach (ex-cathedra, lecture, giving direct instructions, delegating tasks to the students etc.)	1	2	3	4	5
Student-centred approach (teacher as a facilitator or demonstrator, giving differentiated instructions, allowing students to work on their own, providing support, encouraging students to learn, ask questions etc.)	1	2	3	4	5
Personalised learning (focusing on each student and his talents, needs, progress and difficulties)	1	2	3	4	5
Inquiry-based learning (posing questions, problems or scenarios rather than presenting facts, lecturing)	1	2	3	4	5
Problem-based learning	1	2	3	4	5
Kinaesthetic learning (students carry out physical activities, work on projects with their hands etc.)	1	2	3	4	5
Project based learning	1	2	3	4	5

Doing practical exercises.	1	2	3	4	5
Learning from practical examples and case studies.	1	2	3	4	5
Field work of students.	1	2	3	4	5
Using creative thinking techniques.	1	2	3	4	5
Enabling students to think and reflect about a concept (coming up with their own definition) before they learn about it.	1	2	3	4	5
Teaching focused on cooperation with local companies.	1	2	3	4	5
Learning cell (students learn and work in pairs).	1	2	3	4	5
Class discussions.	1	2	3	4	5
Class games.	1	2	3	4	5
Mentoring.	1	2	3	4	5
Giving and receiving feedback (to and from students).	1	2	3	4	5



Encouraging team work and collaboration of students.	1	2	3	4	5
Presentations and simulations of students.	1	2	3	4	5
Team teaching (cooperating with other teacher in teaching the same subject, course).	1	2	3	4	5

Evaluation questionnaire for training – teachers – Q4T

YOUR FEEDBACK FOR OUR IMPROVEMENT

We believe honest feedback is the best way to improve ourselves. We'd really appreciate if you could take a few minutes and provide us the honest answers so we can improve our work.

Please, evaluate the following aspects of the training so that you circle the right number
(1 – bad, 2 – solid, 3 – average, 4 – good, 5 – very good).

Please provide also **comments/suggestions** on each topic.

Quality of the training	1	2	3	4	5	Comment/suggestion:
Usefulness of the training	1	2	3	4	5	Comment/suggestion:
Quality of the trainer	1	2	3	4	5	Comment/suggestion:
General atmosphere in the group	1	2	3	4	5	Comment/suggestion:
Facilities, locations (<i>venue location, quality of the room, materials, equipment etc.</i>)	1	2	3	4	5	Comment/suggestion:
Flexibility of the training and the trainers	1	2	3	4	5	Comment/suggestion:
Accessibility of the trainer (<i>how helpful and attentive he was</i>).	1	2	3	4	5	Comment/suggestion:
Clear communication(<i>communication of trainers, understanding</i>).	1	2	3	4	5	Comment/suggestion:
Innovative teaching methods (<i>using new and innovative ways of teaching</i>).	1	2	3	4	5	Comment/suggestion:
Practical approach and hands-on working method (<i>practical exercises, field work etc.</i>)	1	2	3	4	5	Comment/suggestion:
Cooperation with colleagues (<i>working in pairs or groups, sharing experiences etc.</i>)	1	2	3	4	5	Comment/suggestion:
I acquired enough knowledge and skills to teach entrepreneurship and to work with students.	1	2	3	4	5	Comment/suggestion:



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Your general satisfaction with the training.	1 2 3 4 5	<i>Comment/suggestion:</i>
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Please answer the following questions:

What were your favourite aspects of the training?

What were your least favourite aspects of the training?

What else should be included in the training so you would feel more competent to implement entrepreneurship training with students?

If you have any other comments, ideas, suggestions, please share them with us:

Thank you for your time, contribution and for being with us. 😊



Evaluation questionnaire for workshops – students – Q4S

YOUR FEEDBACK FOR OUR IMPROVEMENT

We believe honest feedback is the best way to improve ourselves. We'd really appreciate if you could take a few minutes and provide us the honest answers so we can improve our work.

Please, evaluate the following aspects of the workshops so that you circle the right number

(1 – bad, 2 – solid, 3 – average, 4 – good, 5 – very good).

Please provide also **comments/suggestions** on each topic.

Quality of the workshops	1 2 3 4 5	<i>Comment/suggestion:</i>
Usefulness of the workshops	1 2 3 4 5	<i>Comment/suggestion:</i>
Quality of the teaching	1 2 3 4 5	<i>Comment/suggestion:</i>
General atmosphere in the group	1 2 3 4 5	<i>Comment/suggestion:</i>
Location, materials, equipment needed for the work	1 2 3 4 5	<i>Comment/suggestion:</i>
Flexibility of the workshops and the teachers	1 2 3 4 5	<i>Comment/suggestion:</i>
Accessibility of the teachers <i>(how helpful and attentive they were).</i>	1 2 3 4 5	<i>Comment/suggestion:</i>
Clear communication <i>(communication of teachers, understanding).</i>	1 2 3 4 5	<i>Comment/suggestion:</i>
Innovative teaching methods <i>(using new and innovative ways of teaching).</i>	1 2 3 4 5	<i>Comment/suggestion:</i>
Practical approach <i>(practical exercises, field work etc.)</i>	1 2 3 4 5	<i>Comment/suggestion:</i>
Cooperation with other students in the class <i>(working in pairs or groups, sharing experiences etc.)</i>	1 2 3 4 5	<i>Comment/suggestion:</i>
I acquired enough knowledge and skills about entrepreneurship to be able to start developing my own business idea.	1 2 3 4 5	<i>Comment/suggestion:</i>



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Your general satisfaction with the workshops.	1 2 3 4 5	<i>Comment/suggestion:</i>
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Please answer the following questions:

What did you like the most?

What didn't you like so much?

Would you add anything to the workshops?

If you have any other comments, ideas, suggestions, please share them with us:

Thank you for your time, contribution and for being with us. 😊



QUESTIONNAIRE – LEARNING PROCESS OF STUDENTS – Teachers – Q5

CODE: _____

DATE AND PLACE: _____

17. Please rate how much knowledge about particular topic have the students gained or how much did they improve a specific skill.

Use the scale from 1 to 5:

1 = haven't gained any knowledge or skills

2 = gained little knowledge or skills

3 = gained some knowledge or skills

4 = gained good knowledge or skills

5 = gained great knowledge or skills

KNOWLEDGE

What is entrepreneurship	1	2	3	4	5
Contemporary trends	1	2	3	4	5
Innovative thinking and crazy ideas	1	2	3	4	5
Learning about the customer	1	2	3	4	5
Field work	1	2	3	4	5
Understanding the data and market	1	2	3	4	5
Generating ideas	1	2	3	4	5
Prototyping	1	2	3	4	5
Storytelling	1	2	3	4	5
Business model canvas	1	2	3	4	5
Team roles	1	2	3	4	5
Presentation of business idea	1	2	3	4	5

SKILLS

Identifying a problem or a challenge	1	2	3	4	5
Being able to solve a problem, address a challenge	1	2	3	4	5
Being able to develop different ideas and solutions	1	2	3	4	5
Creativity skills	1	2	3	4	5
Communication with other students	1	2	3	4	5
Communication with teacher	1	2	3	4	5
Communication with representatives of local companies	1	2	3	4	5
Presentation skills	1	2	3	4	5
Team work skills	1	2	3	4	5
Field work and analysis	1	2	3	4	5
Understanding the customer	1	2	3	4	5
Being able to create business model canvas	1	2	3	4	5
Self-initiative	1	2	3	4	5



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Teaching Entrepreneurship

Persistence	1	2	3	4	5
Flexibility	1	2	3	4	5
Storytelling	1	2	3	4	5

Are there any additional skills that students have improved or any knowledge they have gained that is not mentioned above? If yes, please name the skills or knowledge and rate on a scale from 1 to 5.

What was the feedback of students about the entrepreneurial workshops and the learning process? How much did they like the way of learning, method? Did they have fun? What was the topic, content or method they liked the most? What was the topic, specific content or exercise they found the most useful? Why?

What is your opinion about the entrepreneurial workshops and the learning process? Is it important for students to learn entrepreneurship? Why?



QUESTIONNAIRE – LEARNING PROCESS OF STUDENTS – Students – Q6

CODE (teacher): _____

DATE AND PLACE: _____

18. Please rate how much knowledge about particular topic have you gained or how much did you improve a specific skill.

Use the scale from 1 to 5:

1 = haven't gained any knowledge or skills

2 = gained little knowledge or skills

3 = gained some knowledge or skills

4 = gained good knowledge or skills

5 = gained great knowledge or skills

KNOWLEDGE

What is entrepreneurship	1	2	3	4	5
Contemporary trends	1	2	3	4	5
Innovative thinking and crazy ideas	1	2	3	4	5
Learning about the customer	1	2	3	4	5
Field work	1	2	3	4	5
Understanding the data and market	1	2	3	4	5
Generating ideas	1	2	3	4	5
Prototyping	1	2	3	4	5
Storytelling	1	2	3	4	5
Business model canvas	1	2	3	4	5
Team roles	1	2	3	4	5
Presentation of business idea	1	2	3	4	5

SKILLS

Identifying a problem or a challenge	1	2	3	4	5
Being able to solve a problem, address a challenge	1	2	3	4	5
Being able to develop different ideas and solutions	1	2	3	4	5
Creativity skills	1	2	3	4	5
Communication with other students	1	2	3	4	5
Communication with teacher	1	2	3	4	5
Communication with representatives of local companies	1	2	3	4	5
Presentation skills	1	2	3	4	5
Team work skills	1	2	3	4	5
Field work and analysis	1	2	3	4	5
Understanding the customer	1	2	3	4	5
Being able to create business model canvas	1	2	3	4	5
Self-initiative	1	2	3	4	5



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Teaching Entrepreneurship

Persistence	1	2	3	4	5
Flexibility	1	2	3	4	5
Storytelling	1	2	3	4	5

Are there any additional skills that you have improved or any knowledge you have gained that is not mentioned above? If yes, please name the skills or knowledge and rate on a scale from 1 to 5.

What is your opinion about the entrepreneurial workshops and the learning process? Is it important for students to learn entrepreneurship? Why?

How much did you like the method, the way of teaching and learning? Which methods and exercises did you like the most? Did you have fun? What was the topic, specific content or exercise you liked the most or you found the most useful? Why?



QUESTIONNAIRE – EFFECTIVE LEARNING ENVIRONMENT – Teachers – Q7

CODE: _____

DATE AND PLACE: _____

19. Please rate the following aspects of the learning process and learning environment.

Use the scale from 1 to 5:

1 = completely disagree

2 = disagree

3 = partially agree, partially disagree

4 = agree

5 = completely agree

The students asked more questions than the teachers.	1	2	3	4	5
Questions are valued more than providing answers.	1	2	3	4	5
All ideas of students are welcomed and taken into consideration.	1	2	3	4	5
Different teaching methods were used (project-based teaching, direct instruction, peer-to-peer learning, field work, individual work, team work, creative techniques etc.).	1	2	3	4	5
Teacher communicated well, clearly and often with students.	1	2	3	4	5
Teacher was able to raise interest for entrepreneurship among students.	1	2	3	4	5
Teamwork and cooperation of students were encouraged.	1	2	3	4	5
Teaching was personalized/differentiated for every student.	1	2	3	4	5
Teacher gave clear instructions for student work, practical exercises.	1	2	3	4	5
Teacher explained new concepts and topics well.	1	2	3	4	5
Support to the students was personalized/differentiated for every student.	1	2	3	4	5
Process, effort, persistence, and innovative/creative ideas of the students were praised more than the end result or product.	1	2	3	4	5
Students were able to co-create learning environment.	1	2	3	4	5
Students were able to give feedback on the teaching process.	1	2	3	4	5
Mistakes were encouraged, welcomed and not punished.	1	2	3	4	5
There were a lot of opportunities for practical learning.	1	2	3	4	5
Students had control over their learning process.	1	2	3	4	5
Students were able to do field work.	1	2	3	4	5
There were opportunities for personal growth of students.	1	2	3	4	5
Learning by doing, experimentation was more important than acquiring theoretical knowledge.	1	2	3	4	5



Students had enough space to work on their projects.	1	2	3	4	5
Students had enough time to work on their projects.	1	2	3	4	5
More than one creative thinking technique was presented during the course.	1	2	3	4	5
Teacher was able to inspire students for learning, their projects and work.	1	2	3	4	5
Teacher was able to motivate students for entrepreneurship.	1	2	3	4	5
Teacher was able to creating relaxing and fun learning atmosphere.	1	2	3	4	5
Students learned new things and concepts.	1	2	3	4	5
Teacher provided enough materials and suitable equipment to work on the projects.	1	2	3	4	5
Teacher acted as a good link between students and local companies.	1	2	3	4	5
Teacher was providing additional support or mentoring to the students.	1	2	3	4	5

Teacher was able to explain well and clearly the following topics and subjects:

What is entrepreneurship	1	2	3	4	5
Contemporary trends	1	2	3	4	5
Innovative thinking and crazy ideas	1	2	3	4	5
Learning about the customer	1	2	3	4	5
Field work	1	2	3	4	5
Understanding the data and market	1	2	3	4	5
Generating ideas	1	2	3	4	5
Prototyping	1	2	3	4	5
Storytelling	1	2	3	4	5
Business model canvas	1	2	3	4	5
Team roles	1	2	3	4	5
Presentation of business idea	1	2	3	4	5



QUESTIONNAIRE – EFFECTIVE LEARNING ENVIRONMENT – Students – Q8

CODE: _____

DATE AND PLACE: _____

20. Please rate the following aspects of the learning process and learning environment.

Use the scale from 1 to 5:

1 = completely disagree

2 = disagree

3 = partially agree, partially disagree

4 = agree

5 = completely agree

The students asked more questions than the teachers.	1	2	3	4	5
Questions are valued more than providing answers.	1	2	3	4	5
All ideas of students are welcomed and taken into consideration.	1	2	3	4	5
Different teaching methods were used (project-based teaching, direct instruction, peer-to-peer learning, field work, individual work, team work, creative techniques etc.).	1	2	3	4	5
Teacher communicated well, clearly and often with students.	1	2	3	4	5
Teacher was able to raise interest for entrepreneurship among students.	1	2	3	4	5
Teamwork and cooperation of students were encouraged.	1	2	3	4	5
Teaching was personalized/differentiated for every student.	1	2	3	4	5
Teacher gave clear instructions for student work, practical exercises.	1	2	3	4	5
Teacher explained new concepts and topics well.	1	2	3	4	5
Support to the students was personalized/differentiated for every student.	1	2	3	4	5
Process, effort, persistence, and innovative/creative ideas of the students were praised more than the end result or product.	1	2	3	4	5
Students were able to co-create learning environment.	1	2	3	4	5
Students were able to give feedback on the teaching process.	1	2	3	4	5
Mistakes were encouraged, welcomed and not punished.	1	2	3	4	5
There were a lot of opportunities for practical learning.	1	2	3	4	5
Students had control over their learning process.	1	2	3	4	5
Students were able to do field work.	1	2	3	4	5
There were opportunities for personal growth of students.	1	2	3	4	5



Learning by doing, experimentation was more important than acquiring theoretical knowledge.	1	2	3	4	5
Students had enough space to work on their projects.	1	2	3	4	5
Students had enough time to work on their projects.	1	2	3	4	5
More than one creative thinking technique was presented during the course.	1	2	3	4	5
Teacher was able to inspire students for learning, their projects and work.	1	2	3	4	5
Teacher was able to motivate students for entrepreneurship.	1	2	3	4	5
Teacher was able to creating relaxing and fun learning atmosphere.	1	2	3	4	5
Students learned new things and concepts.	1	2	3	4	5
Teacher provided enough materials and suitable equipment to work on the projects.	1	2	3	4	5
Teacher acted as a good link between students and local companies.	1	2	3	4	5
Teacher was providing additional support or mentoring to the students.	1	2	3	4	5

Teacher was able to explain well and clearly the following topics and subjects:

What is entrepreneurship	1	2	3	4	5
Contemporary trends	1	2	3	4	5
Innovative thinking and crazy ideas	1	2	3	4	5
Learning about the customer	1	2	3	4	5
Field work	1	2	3	4	5
Understanding the data and market	1	2	3	4	5
Generating ideas	1	2	3	4	5
Prototyping	1	2	3	4	5
Storytelling	1	2	3	4	5
Business model canvas	1	2	3	4	5
Team roles	1	2	3	4	5
Presentation of business idea	1	2	3	4	5