The models of processes of developing transversal skills in practical training

March, 2017

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PARTNERS:

Centria University of Applied Sciences

The Federation of Education in Jokilaaksot – JEDU

Czestochowa University of Technology

The Western Chamber of Industry and Commerce

Wroclaw University of Economics (WUE)

Matej Bel University Banska Bystrica

University of Maribor – Faculty of Economics and Business

Parts:

Instruction for preparing and testing models of processes of developing transversal skills as a part of practical training

January, 2017

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1. AIM OF THE INSTRUCTION

The aim is to document the way in which to proceed in two further stages[1] of "The acceleration method of development of transversal competences in the students' practical training"

2. RELATED DOCUMENTS

2.1. Project application "The acceleration method of development of transversal competences in the students' practical training" – control code EC0AC2229CB3D600, in particular point G1, pp. 60 - 63.
2.2. Result O3 – "Matrix of the dependencies between practical teaching methods and an increase in students' transversal competences".
2.3. Document: Development of rules for selecting practical teaching methods for process reference models (along with the developed matrix in IO3) and the summary of consultations on the principles carried out with the Partners.
2.4. Development of a method to measure competences / the improvement of transversal skills.

3. SOURCES OF GUIDELINES FOR THE SAKE OF PROCESS TESTING

Guidelines for the sake of process testing are the following:

3.1. Recommendations – contained in the present instruction.
3.2. Document templates – contained in Appendix 1 – a sheet of a model of a process of developing transversal skills as part of practical training to the present Instruction.
3.3. Questionnaire – Appendix 2 – concerns research methodology of the dynamics of changes of an increase in a competence during the implementation of training processes including new selected practical teaching methods.
3.4. Questionnaire – Appendix 3 – is a questionnaire to measure the evaluation of the level of students' transversal skills as part of practical training.
3.5. Other measurement tools – among which indicators of the pace of changes (point 8.3. of the present document) can be listed.
3.6. Scenarios – described in Appendix 1 (point 2, subpoint 3).
3.7. Remarks – used in the developed documentation related to the present instruction.
3.8. Flashcards – auxiliary materials for persons testing the processes, in particular forms filled in and presented in Appendix 1.

4. BASIC NOTIONS

4.1. A process[2] is a chain of actions in which practical teaching methods are used to upgrade transversal competences of students. It is assumed in the project that within a process there

[1] They are: IO5 - the models of processes of developing transversal skills in practical training and O6 - the results of testing process models. IO5 should prepare for testing the models of processes of developing transversal skills in practical training. In contrast IO6 is tested implementation and research of designed references models of developing crucial for entrepreneurs transversal competences with the use of selected practical teaching methods.

are at least three practical teaching methods. A process is referred to during testing and after testing. This notion is used in work carried out by the Partner Institutions.

4.2. A process model[3] is a hypothetical mental construction of a process. Itis is simplified picture in which elements deemed as insignificant as far as testing is concerned have been removed. A process model is referred to during testing and after testing. This notion is used in work carried out by the Partner Institutions. The description of the model will be developed in accordance with Appendix 1 of the present document.

4.3. A reference process model is a benchmark process model[4]. A reference model is referred to after testing a process. This notion is used by Institutions which would like to introduce the tested processes.

Additional explanation: after testing, the process which was tested in a testing Institution, remains, from the point of view of such an Institution, a process. From the point of view of an Institution which would like to introduce it, it is a reference process model – as it does not account for conditions existing in an Institution interested in its implementation. Only as a result of implementation and accounting for additional conditions enabling its application, a reference process model is transformed into a process.

4.4. Transversal skill – a skill making up a transversal competence.

4.5. Tester – a student on whom a process is tested.

5. PREPARING PROCESS MODELS FOR TESTING

5.1. Each Partner specified in the application tests at least 1 process covering at least 3 practical teaching methods selected for particular processes on the basis of the document accepted by the Partners named "Development of rules concerning the selection of practical teaching methods for process reference models (including the developed matrix in IO3) and the summary of consultations related to the rules carried out with the Partners". The Partners present the processes in a sheet prepared according to **Appendix 1** of the present instruction.

5.2. When selecting practical teaching methods, the process-testing Partners will take into account the fact that the Partner Institutions' duty is to implement into the students' training system a method developed in the project. The implementation rules will be discussed by the Partners with the National Agency in the further part of the project.

5.3. The duration of the process[5] must be longer than one full day (24 h). This is necessary in order to properly conduct the research using a questionnaire specified in point 7.2 (Appendix 3).

5.4. The document, whose template is presented in Appendix 1, will contain each Partner's in-depth descriptions of methods selected for testing in their processes.

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[2] Definition implemented for the project needs: M. Szafranski, Skuteczność działań w systemach zarządzania jakością przedsiębiorstw, Wydawnictwo Politechniki Poznańskiej, 2006, str. 45.

[3] Encyklopiedia Zarządzania https://mfiles.pl/pl/index.php/Model [z dn. 7.12.2016].

[4] B. Kubiak, A. Korowicki (red.), *Human Computer Interaction***,** Fundacja Rozwoju EG, Gdańsk 1997 str. 102.

[5] From first to last used method – not counted as a sum of real time of used following methods. Example: If two methods are used on the same lecture e.g. brainstorming and meta-plan, and the third practical teaching method is internship, duration of the process is counted form the first lecture to the end of the internship. In practice it means, that it is not possible to use all of the methods at the same day, even if they are used during 8 hours of classes. The process should last at minimum two calendar days.

5.5. Each process will be tested on at least 3 test groups. Each group will contain at least 5 students, which means that the testing of the process will take place on at least 15 students for at least 17 test groups for all the processes (Centria, UMB-FEB, UMB, WUE, CUT – each Institution 3, PUT 2 testing groups).
5.6. The rules regarding the selection of testers will be described in a separate instruction.

6. AIMS OF TEST WORK IN TESTING

6.1. Aims related to the project

6.1.1. Verification of the testing procedure, which is treated as one of the stages of the designed method.
6.1.2. Verification of the procedure of evaluating the pace of changes in the level of transversal competences in the tested processes.
6.1.3. Verification of the procedure of selecting testers for research.
6.1.4. Identification of problems in the testing process, treated as a trial development of selected models of processes of improving transversal skills as part of practical training.

6.2. Aims connected with the testing process

6.2.1. Test implementation and examination of the developed process reference models of acquiring, from the point of view of entrepreneurs, the most important transversal competences using selected practical teaching methods.
6.2.2. Comparing in which practical training processes, out of those accepted for testing, there is the fastest development (increase) in transversal skills – it is tantamount to examining the pace of changes in the level of skills in the tested processes.

7. PACE OF CHANGES IN THE LEVEL OF COMPETENCES

7.1. In accordance with the content of the application form of this project "testing will primarily consist in analyzing the pace of changes in the level of skills in the tested processes". Conducting research at the level of competences is sufficient in the project. Competences covered by the project are made up of skills identified within the framework of earlier work in the project (definitions of transversal competences, see dictionary report IO1).
7.2. **Pace of changes** (in the project – increase in transversal competences) will be expressed through tested students' evaluation.

Analyzing the pace of changes in the testing process will be conducted using 2 methods:

1) auditorium questionnaire methods,
2) ratio analysis method.

8. APPLICATION OF RESEARCH METHODS

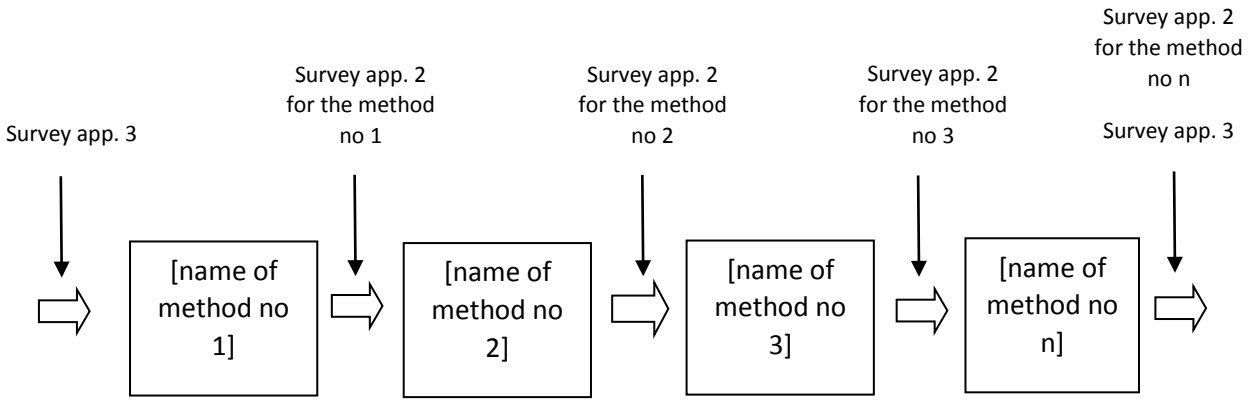

Figure 1. Application of the practical training methods in designed process – version 1.

* The process may contain no fewer than 3 practical teaching methods. Some of them may be used at the same time e.g. case study and team-work.

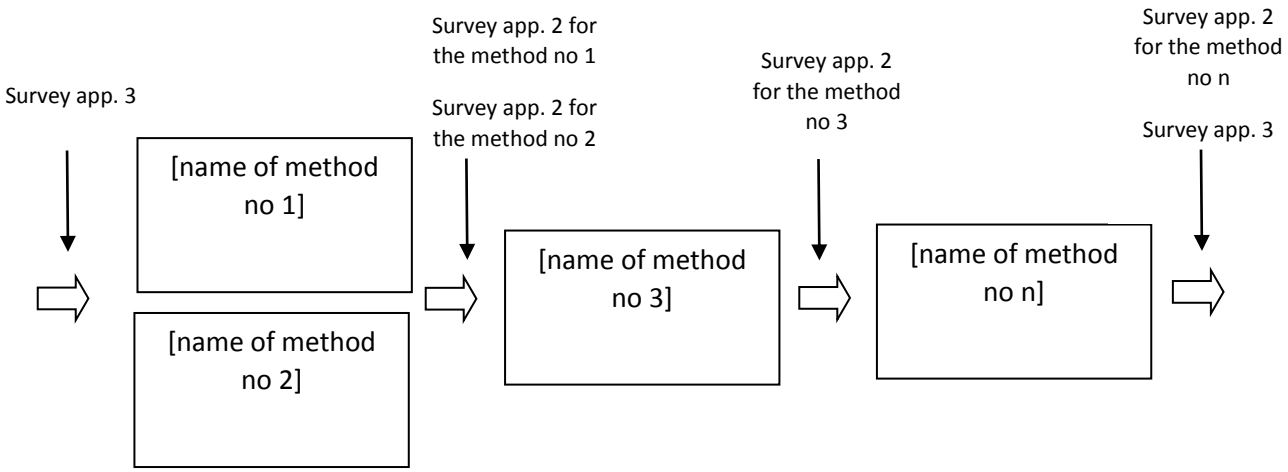

Figure 2. Application of the practical training methods in designed process – version 2.

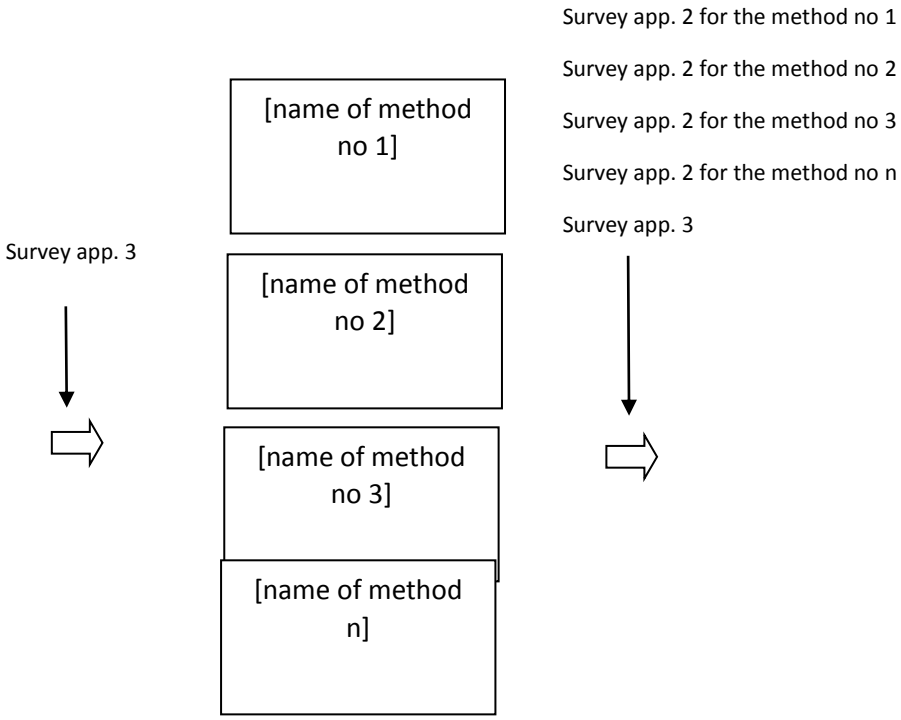

Figure 3. Application of the practical training methods in designed process – version 3.

8.1. Auditorium questionnaire method to analyze the pace of changes in the process

An auditorium questionnaire form can be found in **Appendix 2** of the present instruction. It concern also the situation in which there are used 2 methods at the same time. In this case appendix 2 should be fill in by testers after each practical teaching methods (each tester fill in 1 questionnaire/1 method).

The survey will be conducted among all the students taking part as testers in the tested practical training processes. The survey will be carried out for each of the methods accounted in the process has been used. Students will assess, for each of the applied methods, how much the level of their skills, that is of the analyzed competences, has increased. An example of conducting tests for one test group is shown below. The research will make use of a 6-grade scale, from 0 to 5. In accordance with the aims of the research, the question will relate to the evaluation of the degree of change and not to the level of possessed skills. It is assumed that in case of transversal competences, the level of possessed skills that form a competence cannot be decreased. The degree of change will express the pace of changes viewed by students.

Question for tester: Evaluate an increase in each skill, using a 6-grade scale, from 0 to 5.

Grade / Skill	0	1	2	3	4	5
$Skill_1$	x					
$Skill_2$			x			
$Skill_3$					x	
$Skill_4$			x			
Average grade given to a competence K_1	2					

Tab.1.1. Evaluation of an increase in skills of an individual student making up a given transversal competence. An example for a questionnaire contained in Appendix 2.

NOTE: Rules related to drawing conclusions on the basis of collected data will be discussed with the Partners by the end of February 2017.

8.2. The auditorium questionnaire method to evaluate the level of students' transversal competences before the process

The pace of an increase in transversal competences may be influenced by the level of a given competence at the beginning. Therefore, for the purpose of a further analysis and necessity to compare the results of processes between each other, the level of each transversal competence will be analyzed in test groups both before and after the process.

To this end, a questionnaire developed as part of a document listed in point 2.4 of the present instruction has been implemented. The reasons for its selection and methodological details are described in the said document. The questionnaire form is presented in **Appendix 3**. The survey will be conducted before testing the processes among students from test groups.

NOTE: Rules concerning the analysis of testing results will be developed in a separate document and consulted with the Partners by the end of February 2017.

8.3. Ratio analysis method

In order to assess the effectiveness of using the processes, it is recommended to examine the pace of changes by comparing the time of using methods in the processes and the entire processes with the evaluated increase of competences by methods quoted in points 8.1 and 8.2 of the present instruction. To this end, the use of the following formula is suggested:

Increase in the level of a competence / time of using a method,

Increase in the level of a competence / time of carrying out a process,

The time of carrying out a process will be analyzed in two aspects:

a) as the sum of periods of using practical teaching methods in the process,
b) as a period from the starting date of using the first practical teaching method to the finishing date of using the last practical teaching method in the process.

The introduction of another interpretation of time in which the process is to be realized is well-grounded as it may happen that in real conditions practical teaching methods will not be able to be used one after the other – there will be natural breaks between using them, resulting from the arrangement of the academic year.

Due to the conditions mentioned, 3 indicators will be calculated. Those are:

a) increase in the level of a competence / time of using a method,
b) increase in the level of a competence / time of carrying out a process (as the sum of periods of using practical teaching methods in the process),
c) increase in the level of a competence / time of carrying out a process (as a period from the starting date of using the first practical teaching method to the finishing date of using the last practical teaching method in the process).

9. RULES OF PROCESS TESTING

The following are the rules of testing process developed by the Partners.

9.1. Period of process testing. It is planned in the project that the testing of processes will last from 1 April 2017 to 31 October 2017. The testing process does not cover the stage of analyzing the testing results. This work is planned to take place between 1 November 2017 and 31 January 2018. The Partners can begin process testing earlier under the condition that the rules concerning testing are accepted by all the Partners, at least those who will test processes. The Partners can end testing after 31 October 2017 only under the condition that they will finish the analysis of the testing results by 31 January 2018. The analysis of testing results will be carried out as part of working on result IO7. The stated dates are cut-off dates. In this period the Partners will plan on their own when testing is to take place. The detailed plan of testing should be specified in Appendix 1, point 5.3).

9.2. The Partners taking part in process testing will describe in attachments developed process analsis their analyzed processes in a document, the template of which is presented in the Appendix 1. The first versions of the process descriptions should be prepared by 27 January 2017. Between 11 January and 12 February 2017 consultations related to the appropriateness of their selection and description will take place.

9.3. The research will make use of questionnaires featured in the Appendixes 2 and 3.

9.4. Separate documents will contain:

9.4.1. A method of the analysis (including conclusions drawn) of data collected from process testing

9.4.2. Rules concerning the presentation of testing results.

9.5. The Partners' universities will ensure that the research teams have appropriate conditions to carry out tests related to the project.

APPENDIX NO. 1

to the instruction for preparing and testing models of processes of developing transversal skills as part of practical training

SHEET OF A MODEL OF THE PROCESS OF DEVELOPING TRANSVERSAL SKILLS AS PART OF PRACTICAL TRAINING

I.	**No. of intellectual work result**	O5	**II.**	**Testing period**	01 April 2017-31 October2017
III.	**Partner conducting testing**		.....		

1. Process presentation

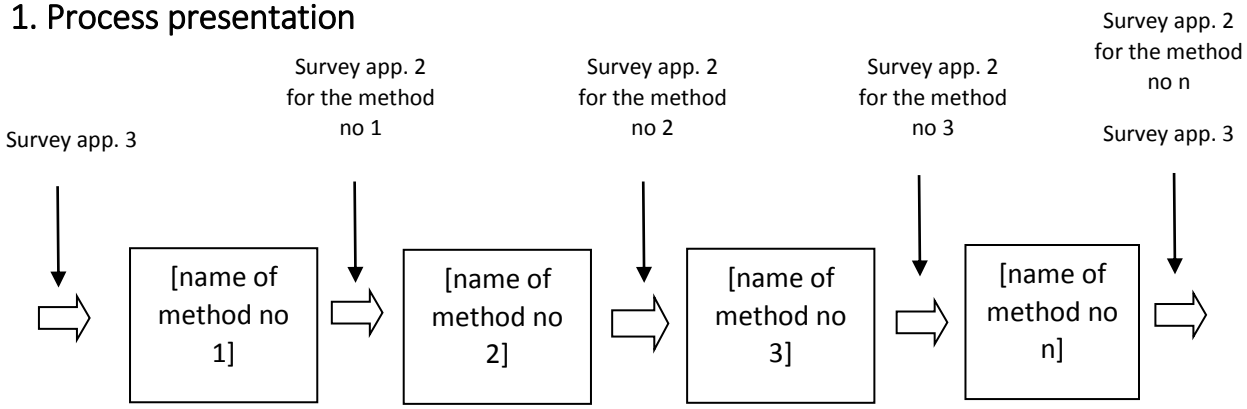

Figure 1. Application of the practical training methods in designed process – version 1.

* The process may contain no fewer than 3 practical teaching methods. Some of them may be used at the same time e.g. case study and team-work.

Table 1. Selection of the practical training methods for designing process based on the matrix of the dependencies between practical teaching methods and an increase in students transversal competences.

No the method in the process	**Name of practical teaching method**	**Quartile**	**Rank of the method in matrix**	**Entre-prene-urship**	**Crea-tivity**	**Commu-nicati-veness**	**Team-work**	**Group of methods**	**Impact of the method on 4 trans-versal compe-tences**
1.	1st method	No	No	Impact of the method	Impact of the method	Impact of the method	Impact of the method	Desc-cription	result
2.	2nd method	No	No	Impact of the method	Impact of the method	Impact of the method	Impact of the method	Desc-cription	result
3.	3rd method	No	No	Impact of the method	Impact of the method	Impact of the method	Impact of the method	Desc-cription	result

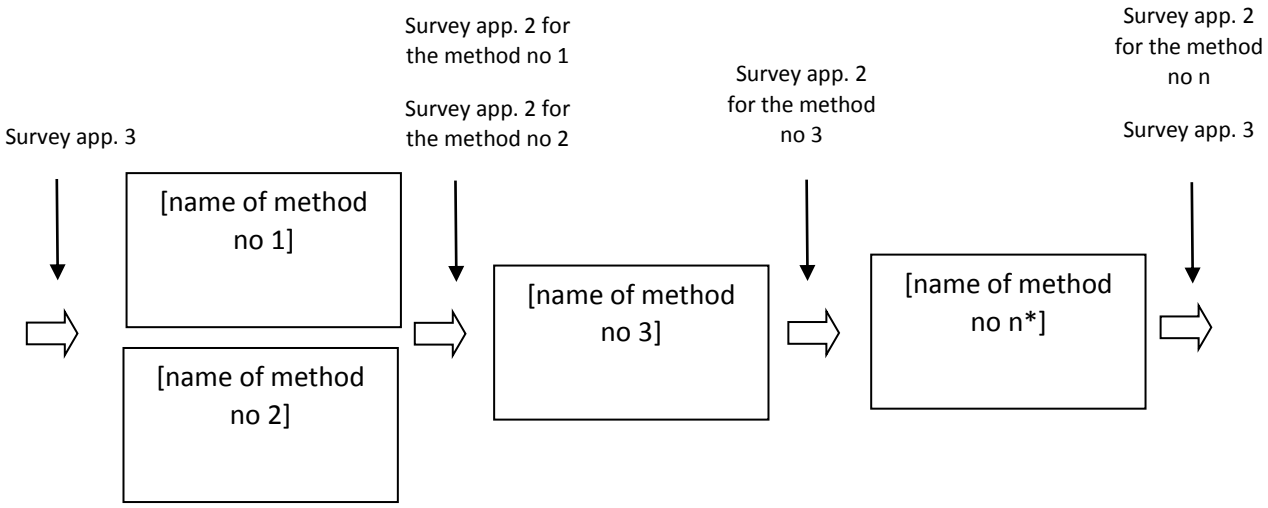

Figure 2. Application of the practical training methods in designed process – version 2.

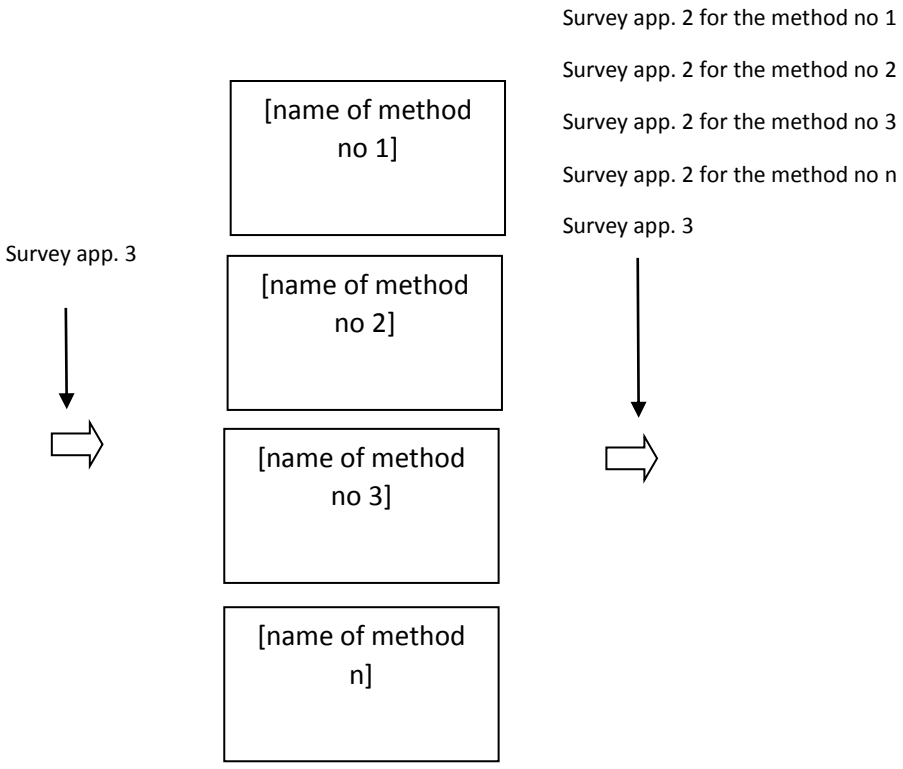

Figure 3. Application of the practical training methods in designed process – version 3.

2. Analysis of the ways of using practical teaching methods selected for the process of developing transversal skills

Note. In this point, one needs to describe methods referred to in point 1. The following information should be provided:

1) *an in-depth analysis of the ways in which practical teaching methods selected for the testing process are usually used by a given Partner's country, including a university*
2) *an analysis of the way in which further stages of training should be conducted so that an increase in transversal competences, including skills making up these competences, could happen as quickly as possible*
3) *the way in which methods will be used in the testing process, which is described in the present document (ensure compatibility of the description with point 2). A description of the use of a method should be attached, planned time of programme implementation with the use of a method and planned dates of using a method with particular groups of testers should be given*

Methods	**Analysis**
[name of method 1]	1)
	2)
	3)
[name of method 2]	1)
	2)
	3)
[name of method 3]	1)
	2)
	3)
[name of method n]	1)
	2)
	3)

APPENDIX NO. 2

to the instruction for preparing and testing models of processes of developing transversal skills as part of practical training

RESEARCH METHODOLOGY OF THE PACE OF AN INCREASE IN COMPETENCES DURING THE IMPLEMENTATION OF TRAINING PROCESSES INCLUDING SELECTED PRACTICAL TEACHING METHODS

1. Research methodology

Aim: To evaluate the pace of an increase in transversal competences among students taking part in testing new processes with the use of practical teaching methods in selected EU countries

Detailed aims:

1. Evaluation of an increase in the "entrepreneurship" competence,
2. Evaluation of an increase in the "creativity" competence,
3. Evaluation of an increase in the "communicativeness" competence,
4. Evaluation of an increase in the "teamwork" competence.

Object of research: transversal competences

- entrepreneurship,
- creativity,
- communicativeness,
- teamwork.

Population analysed: Higher education students from Finland, Poland, Slovakia and Slovenia.

Subject of research: Increase in transversal competences during a new training process including practical teaching methods.

Sample analyzed: The analyzed sample will be composed of a selection of students, members of a dean's group.

NOTE: The detailed description of the analyzed sample is contained in the document "Description of the analyzed sample in process testing in the project The acceleration method of development of transversal competences in the students' practical training process".

2. Research method: questionnaire

Research tool: questionnaire

Forma of implementation: Internet, tool – questionnaire based on a Google form

Logic behind the construction of the questionnaire:

Singling out indicators for each transversal competence and subjecting it to evaluation.

The evaluation of an increase in a skill (competence indicator[6]) will be based on a 6-grade scale: from 0 to 5, where:

0 – there was no increase in the skill at all,

1 – there was a very low increase in the skill,

2 – there was a low increase in the skill,

3 – there was a medium increase in the skill,

4 – there was a high increase in the skill,

5 – there was a very high increase in the skill.

Following the evaluations, an open question will be asked for each of the four transversal competences relating to an indication of what is missing in the realized process to make it possible for a given competence to develop more dynamically.

The questionnaire's underlying idea

In order to facilitate the evaluation by the respondents, the introduction to the survey will contain a dictionary of terms for each analyzed competence, which will be broken up into indicators that will be subject to assessment.

Entrepreneurship: a set of knowledge and skills allowing to adapt to changes, perceive and critically assess new opportunities for development, predict, plan, organize and create new singular solutions, take rational risk, implement and realize ideas[7].

Entrepreneurship indicators:

- Ability to invoke and accept changes,
- Ability to perceive and critically assess entrepreneurial opportunities,
- Ability to plan creative solutions,
- Ability to create new unique solutions,
- Ability to take rational risk,
- Ability to turn ideas into specific activities.

Creativity is a set of knowledge and skills to make use of creative thinking techniques, create original and useful solutions to problems, develop new concepts or new relationships with existing ideas and concepts[8].

Creativity indicators:

- Ability to make use of creative thinking techniques,
- Ability to create original and useful solutions to problems,
- Ability to develop new concepts or new relationships with existing ideas and concepts.

[6] The competence indicator should be treated as one of a set of skills assigned to a given competence. A similar terminology was presented in the report 2 of the analysis of demand for transversal skills among entrepreneurs in which demand for transversal competences was examined.

[7] re. dictionary / The report O1 concerning applied teaching methods of transversal skills and methods of practical training.s

[8] re. dictionary / The report O1 concerning applied teaching methods of transversal skills and methods of practical training..

Teamwork is a set of knowledge and skills related to mutual cooperation between members of a group based on activity and engagement into tasks as well as attempts to attain a common goal, provide solutions that improve the efficiency of work, accept co-responsibility for a group's tasks allowing to effectively share knowledge, experience, receive feedback, mutually solve problems and support each other in task achievement[9].

Teamwork indicators

- Ability to become active and engaged in tasks,
- Ability to build pleasant atmosphere and positive relations,
- Ability to solve conflicts in a group,
- Ability to motivate others to act,
- Ability to encourage others to achieve a common goal,
- Ability to respect a group's norms and principles as well as opinions and ideas of other people,
- Ability to convey information in an effective way.

Communicativeness is a set of knowledge and skills related to the ability to convey a reliable message and receive information, establish and maintain appropriate interpersonal relations which are the basis of effective professional activities, express and interpret notions, thoughts, feelings, facts and opinions, in speaking and writing, in a clear and understandable way, interpret nonverbal messages, listen to and respect other people's opinions, negotiate, make public appearances and self-presentations[10].

Communicativeness indicators:

- Ability to convey and receive information in a reliable way,
- Ability to establish and maintain appropriate interpersonal relations,
- Ability to express and interpret notions, thoughts, opinions, in speaking and writing, in a clear and understandable way,
- Ability to interpret nonverbal messages,
- Ability to listen to and respect other people's opinions,
- Ability to negotiate,
- Ability to express and defend one's own opinions,
- Ability to make public appearances and self-presentations.

[9] re. dictionary / The report O1 concerning applied teaching methods of transversal skills and methods of practical training..

[10] re. dictionary / The report O1 concerning applied teaching methods of transversal skills and methods of practical training.

3. Questionnaire layout

Questionnaire to measure the dynamics of changes in the evaluation of acquired transversal competences (degree of change)					
1.	**No. of intellectual work result**	O5	**2.**	**Testing period**	01 April 2017-31 October 2017
3.	**Partner conducting testing**		**4.**	**No. of respondent** (to be completed by the person conducing testing)	
5.	**Name of the method after which the measurement will take place**		**6.**	**Number of a method after which the measurement will take place** (to be completed by the person conducing testing)	

The questionnaire was prepared in order to evaluate an increase in a competence during the realized training process covering practical teaching methods.

Instruction: Read the name of each competence and skills (competence indicators) making up each of them.

Evaluate an increase in each skill using a six-grade scale from 0 to 5, where each grade means:
0 – there was no increase in the skill,
1 – there was a very low increase in the skill,
2 – there was a low increase in the skill,
3 – there was a medium increase in the skill,
4 – there was a high increase in the skill,
5 – there was a very high increase in the skill.

Entrepreneurship: a set of knowledge and skills allowing to adapt to changes, perceive and critically assess new opportunities for development, predict, plan, organize and create new unique solutions, take rational risk, implement and realize ideas.						
Competence indicator	**0**	**1**	**2**	**3**	**4**	**5**
Ability to invoke and accpet changes						
Ability to perceive and critically assess entrepreneurial opportunities						
Ability to plan creative solutions						
Ability to create new unique solutions						
Ability to take rational risk						
Ability to turn ideas into specific activities						
Do you think the conducted activities could be improved in the future to accelerate the acquirement of the entrepreneurship competence? If so, what improvements would you introduce?						
Creativity: a set of knowledge and skills to make use of creative thinking techniques, create original and useful solutions to problems, develop new concepts or new relationships with existing ideas and concepts.						

Competence indicator	0	1	2	3	4	5
Ability to make use of creative thinking techniques						
Ability to create original and useful solutions to problems						
Ability to develop new concepts and new relationships with existing ideas and concepts						
Do you think the conducted activities could be improved in the future to accelerate the acquirement of the creativity competence? If so, what improvements would you introduce?						

Teamwork: a set of knowledge and skills related to mutual cooperation between members of a group based on activity and engagement into tasks as well as attempts to attain a common goal, provide solutions that improve the efficiency of work, accept co-responsibility for a group's tasks allowing to effectively share knowledge, experience, receive feedback, mutually solve problems and support each other in task achievement.						
Competence indicator	**0**	**1**	**2**	**3**	**4**	**5**
Ability to become active and engaged in tasks						
Ability to build pleasant atmosphere and positive relations						
Ability to solve conflicts in a group						
Ability to motivate others to act						
Ability to encourage others to achieve a common goal						
Ability to respect group's norms and principles as well as other people's opinions						
Ability to convey information in an effective way						
Do you think the conducted activities could be improved in the future to accelerate the acquirement of the teamwork competence? If so, what improvements would you introduce?						

Communicativeness: a set of knowledge and skills to convey and receive information in a reliable way as well as to establish and maintain appropriate interpersonal relations which are the foundation of effective professional activities, clearly and understandably express and interpret notions, thoughts, feelings, facts and opinions in speaking and writing, interpret nonverbal messages, listen to and respect other people's opinions, negotiate, make public apperances and self-presentations.						
Competence indicator	**0**	**1**	**2**	**3**	**4**	**5**
Ability to convey and receive information in a reliable way						
Competence indicator	**0**	**1**	**2**	**3**	**4**	**5**
Ability to establish and maintain appropriate interpersonal relations						

Ability to express and interpret notions, thoughts and opinions, in speaking and writing, in a clear and understandable way.						
Ability to interpret nonverbal messages						
Ability to listen to and respect other people's opinions						
Ability to negotiate						
Ability to express and defend one's own opinion						
Ability to make public appearances and self-presentations						
Do you think the conducted activities could be improved in the future to accelerate the acquirement of the communicativeness competence? If so, what improvements would you introduce?						

APPENDIX NO. 3

to the instruction for preparing and testing models of processes of developing transversal skills as part of practical training

QUESTIONNAIRE FOR ASSESSMENT OF THE EVALUATION OF TRANSVERSAL SKILLS LEVEL OF THE STUDENTS IN PRACTICAL TEACHING PROCESS (THE LEVEL OF POSSESED SKILLS)

1.	**No. of intellectual work result**	O5	**2.**	**Testing period**	01.04.2017-31.10.2017
3.	**Partner conducting testing**		.....		
4.	**Number of the respondent** (fill in by the person conducting research)		.....		

The aim of this questionnaire is to make evaluation of the level of transversal competences before and after tested process composed of practical teaching methods.

Instruction: Read the name of each competence and skills (competencies' indicators) that constitute it.

Evaluate each skill level using a six-scale of 0 to 5, wherein the rate indicates that:

0 – skill not mastered;

1 – skill mastered at very low level;

2 – skill mastered at low level,

3 – skill mastered at medium level,

4 – skill mastered at high level,

5 – skill mastered at very high level.

`

General Questions (entrepreneurship)							
I do not have the ability to call and accept the changes	0	1	2	3	4	5	I have the ability to call and accept the changes
I cannot see and critically evaluate entrepreneurial opportunities	0	1	2	3	4	5	I see and critically evaluate entrepreneurial opportunities
I cannot plan creative solutions	0	1	2	3	4	5	I can plan creative solutions
I do not have the ability to create new, creative solution	0	1	2	3	4	5	I have the ability to create new, creative solution
I cannot rationally take risks	0	1	2	3	4	5	I can rationally take risks
I cannot turn ideas into concrete actions	0	1	2	3	4	5	I can turn ideas into concrete actions
General Questions (creativity)							
I cannot use creative thinking techniques	0	1	2	3	4	5	I can use creative thinking techniques
I cannot create original and useful problems solutions	0	1	2	3	4	5	I can create original and useful problems solutions
I do not have the ability to develop new concepts or new links with existing ideas and concepts	0	1	2	3	4	5	I have the ability to develop new concepts or new links with existing ideas and concepts
General Questions (team collaboration)							
I am not active and engaged in the task	0	1	2	3	4	5	I am active and engaged in the task
I cannot create a nice atmosphere and positive relationships	0	1	2	3	4	5	I can create a nice atmosphere and positive relationships
I cannot deal with group conflicts	0	1	2	3	4	5	I can deal with group conflicts
I do not have the ability to inspire and influence others to ac	0	1	2	3	4	5	I have the ability to inspire and influence others to act
I cannot motivate others to work for	0	1	2	3	4	5	I can motivate others to work for

common goal							common goal
I cannot respect the norms and principles of the group, and the opinion and ideas of others	0	1	2	3	4	5	I can respect the norms and principles of the group, and the opinion and ideas of others
I cannot transfer/share information effectively	0	1	2	3	4	5	I can transfer/share information effectively
General Questions (communication)							
I cannot reliably transmit and receive information	0	1	2	3	4	5	I can reliably transmit and receive information
I do not have the ability to establish and maintain appropriate relationships	0	1	2	3	4	5	I have the ability to establish and maintain appropriate relationships
I do not have the skills to clear and comprehensible to express and interpret concepts, thoughts, opinions, orally and in writing	0	1	2	3	4	5	I have the skills to clear and comprehensible express and interpret concepts, thoughts, opinions, orally and in writing
I cannot read non-verbal communication	0	1	2	3	4	5	I can read non-verbal communication
I do not have the ability to listen and respect the opinions of others	0	1	2	3	4	5	I have the ability to listen and respect the opinions of others
I do not have negotiation skills	0	1	2	3	4	5	I have negotiation skills
I do not have the ability to express and defend my own opinion	0	1	2	3	4	5	I have the ability to express and defend my own opinion
I do not have presentation and public speaking skills	0	1	2	3	4	5	I have presentation and public speaking skills

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The first process of developing transversal skills as part of practical training

March, 2017

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SHEET OF A MODEL OF THE FIRST PROCESS OF DEVELOPING TRANSVERSAL SKILLS AS PART OF PRACTICAL TRAINING

I.	**No. of intellectual work result**	O5	**II.**	**Testing period**	01 April 2017 - 31 October 2017
III.	**Partner conducting testing**		Poznan University of Technology		

1. Process presentation

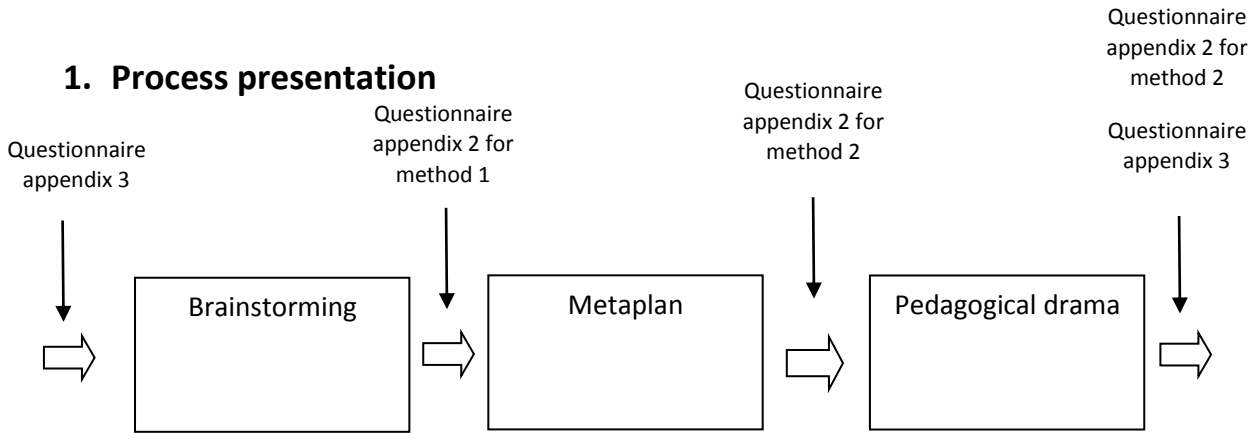

Figure 1. Application of practical teaching methods in process 1 - PUT.

Number of method in the process	Practical teaching method	Quartile	Rank	Entrepre-neurship (E)	Creativity (Cr)	Communi-cativeness (Com)	Teamwork (T)	Group of methods	Result
1.	Brainstorming	I	3	0.97	1.25	0.96	0.94	Problem-solving methods	4.11
2.	Metaplan	I	8	0.95	1.08	0.88	0.92	Problem-solving methods	3.83
3.	Pedagogical drama	II	19	0.77	1.00	0.72	1.00	Other methods	3.49

2. Analysis of the ways of using practical teaching methods selected for the process of developing transversal skills

Methods	Analysis
Brainstorming	1.1. Brainstorming is classified as a method of solving problems in a creative way - based on collective thinking over a detailed/specific question or problem. Brainstorming is related to heuristic methods (in Greek heurisko – to find) that deal with principles of creative thinking and stimulating people to seek new solutions. The method was popularized and described by A.F. Osborn. Brainstorming aims at generating the highest possible number of creative ideas used to solve a problem or answer a set question. The method is linked with solving quality-related problems, requires ingenuity, intuition, vivid imagination and is devoid of criticism. During the implementation of the method, participants moderated by the leader propose as many non-standard, innovative or even unreal ideas as possible, which cannot be criticised (the group should mutually inspire itself). Source literature provides multiple forms of using creative thinking which are close to brainstorming: Method 635, Nominal group technique, Snowball sampling, Individual "stream of consciousness", Digital brainstorming. In the teaching process, brainstorming is used for solving specific problems and is a method of creativity development. Therefore, it is essential for this method to be included in the group of methods that initiate work with students. Due to its universality, the method is during tutorials, project classes and seminars, where it is necessary to increase the ability to think creatively (the cognitive process needs to be strengthened by various sources of information) as well as during discussing, specifying and presenting a problem. At the Faculty of Management Engineering of Poznan University of Technology, the method of brainstorming is used both at first-, second- and third-cycle levels of full-time and part-time courses in subjects such as Marketing research, Marketing, Internet and mobile marketing, Market strategies, Logistics services marketing. Brainstorming is a commonly used method, particularly preferred in case of subjects requiring coming up with creative solutions to problems and participation of a constructively cooperative group. Despite its popularity, brainstorming in formal education is used in 14,70% in relation to project methods, 4.47% during tutorials and 4,34% during laboratory classes – based on Report 01 covering the analysis of universities' course load. As part of informal education, student science clubs and student organizations pointed to brainstorming as the main problem-solving method used in learning. Analyzing the most popular methods of teaching transversal competences, brainstorming is ranked in the third place, dedicated mainly in the process of teaching creativity and entrepreneurship (Report O3).
	1.2. The principal aim of brainstorming is to collectively solve problems through generating ideas. For this reason, the method should be placed in the group of methods initiating education models as part of a quick increase in transversal competences. Taking into account analyses of teaching programmes and employers' opinions contained in Reports O1, O2 and O3, brainstorming should be primarily used to develop skills related to creativity, entrepreneurship, communicativeness and teamwork. Due to the fact that the method is more efficient in group activities than in individual work over a given problem, using the method requires the preparation of problem tasks. The method most frequently covers three stages: a) preparation – introduction to the method, acquaintance with the rules of proceeding, selection of participants, ensuring conditions for productive work, informing about the essence of the problem, b) ideas generating session – essential part (a few/several persons) in accordance with

	the scenario realized by the moderator (the class tutor or a student prepared to take on the role of a moderator), students furnish ideas which are noted on the board; class participants inspire each other, often suggesting new unconventional solutions. At this stage, students' ideas cannot be criticised, the principle of "quantity creates quality" applies c) evaluation of solutions/answers, which is based on criteria such as economic, technical and ergonomic. Students analyze in a detailed way advantages and disadvantages of their ideas, learn group cooperation and often defend their ideas quoting logical arguments. The class tutor should summarize the results of work, assess each group member's commitment to work, taking into consideration assessment made by group leaders/moderators.
	1.3. The method will be used as part of the subject "Internet and mobile marketing" in a group of second-cycle students at the Faculty of Management Engineering, full-time studies, 3rd semester, specialization of Management Engineering (the subject taught during 15 hrs of lectures and 15 hrs of tutorials). Three meetings are planned (week-long intervals between meetings are recommended). A. Meeting I - (time of duration: 45 mins.) - explanation of problem-solving methods based on creative thinking and introduction to brainstorming (origins, general rules, application), - introduction to the subject matter of the project – explanation of the significance of activities connected with the process of developing transversal competences as part of practical training. Description of competences and skills connected with creativity, entrepreneurship, communicativeness and teamwork. Explanation what transversal competences are, giving labour market examples and indicating the link between the need for teaching skills at a higher level with employers' needs, - description of research tools which are made use of in the project. As it is necessary to assess the level of competences prior to and after the testing process of education involving practical teaching methods based on the customized questionnaire for measuring the evaluation of the level of students' transversal competences as part of practical training – the entire process of developing transversal competences with the indication of selected methods used in the process must be discussed. The presentation of tenets and consecutive stages of the process will have an influence on making students aware of the significance of implemented activities (nonrandomness) and stresses the importance of linking the education process with market requirements. Conducting the method in a standardized form will also be an essential element in disseminating the developed model and should help in students accepting participation in the method. - The first meeting is also devoted to the selection of problematic aspects within the subject "Internet and mobile marketing", which will be dealt with during classes and which directly stem from the need for "being" entrepreneurial and creative. Example problems to be analyzed might be, e.g. choosing the subject and character of a blog or the scope of benefits a blog should bring. - dividing students into groups – one should organize groups for the implementation of the brainstorming method – minimum 5 persons, maximum 12, choose a moderator (bearing in mind the required characteristics – e.g. decisiveness, composure, communicativeness, tact…), indicate a specific problem that will be tackled so that students could prepare themselves to deal with it. The first part of the method may be realized during lectures. B. Meeting II- aimed at realizing the teaching method compliant with the prepared scenario (developed by the moderator in conjunction with, e.g. "the moderator's technical assistant") (time of duration 90 mins.).

	• "Ingenuity session" begins with the presentation of participants and presentation of rules of proceeding during the meeting (10-15 min). • Next, the moderator (or the technical assistant) writes down the topic/problem that is to be dealt with during the meeting. • The participants propose ideas which are recorded on the board. None of the ideas nor any of the participants are evaluated. • The tutor must ensure fair and equal rules of participation (number of utterances, right to speak) for all the participants. • When generating ideas, no detailed analyses of any solutions are made. The only exception is explaining any complex terms and phrases made by a person who proposes a given idea. • The second stage of brainstorming is summarized by encouraging the proposal of ideas which are a compilation of ideas which were previously put forward. • The meeting, with the participants' permission, may be recorded (voice recorder or video camera) so that fragments of FGI with the participants' emotional involvement could be analyzed for educational purposes. C. The last part is devoted to evaluating the generated ideas and forms both the summary of work done to solve a given problem (choice of a blog subject) and allows to draw conclusions related to the method used in solving the problem (time of duration 45 mins.). Two versions of the stages of evaluation can be adopted: an "expert" method in which it is recommended that evaluation be made by a different team than the team generating ideas or a "defence" method where the participants will be justifying and proving the relevance of their solutions. In the latter attitude, the skill of communicativeness is also trained. The last stage of the method ends with a questionnaire whose aim is to evaluate an increase in particular competences and with a discussion on the efficiency of the method and its potential application in solving educational, professional and common social problems. Conclusions drawn from this stage should also relate to the necessity for expanding/complementing the educational stage with further teaching methods which have the potential for the development of the remaining useful transversal competences. It should be an introduction to the implementation of further educational stages in the process of developing transversal skills as part of students' practical training.
Metaplan	2.1. The metaplan method ranks among problem-solving methods and consists in a graphical record of arguments obtained from a discussion on a given topic, conducted by participants. During a discussion, a poster is created, which is the final result. The method is used, among others, when resolving disputes or discussing difficult and contentious issues. When making use of a metaplan during solving a problem, students work in a group, actively listen to each other, look for creative solutions and communicate effectively with each other in order to present their opinions. When working on a solution to a problem, students learn to negotiate, present a problem and carry out a discussion. A very important stage during the application of the metaplan method is drawing conclusions and an effective presentation of a solution. Discussion participants develop their skill of concentration while seeking constructive solutions to problems and their ability to understand the significance of phenomena and events. A metaplan develops transversal competences related to entrepreneurship, creativity, teamwork and communicativeness. A metaplan, in particular, raises the level of the following skills (described as indicators of transversal competences in "Report O2 of the research of transversal skills requirement among entrepreneurs"):

	- critical thinking; - discussing; - effective conveyance of infomation; - listening to and respecting other people's opinions; - negotiating in a discussion group; - presenting diverse aspects of a given problem; - presenting and defending one's own viewpoint; - concluding and formulating one's thoughts in a concise way; - solving problems in a creative way; - cooperating in a discussion group: commitment to tasks, resolving conflicts in a group, encouraging others to take part in a discussion; - spotting creative solutions and critical assessment. At Poznan University of Technology, the metaplan method is used during tutorials, projects and seminars. Subjects in which a metaplan is used include: - motivation systems – Faculty of Management Engineering, field of study - Management Engineering, second-cycle, 3rd semester, where students discuss motivational factors in organizations and record arguments and conclusions in the form of a metaplan. - negotiations and negotiation techniques – Faculty of Management Engineering, field of study - Management Engineering, first-cycle, 5th semester. During classes, the metaplan technique is used when students learn about mediation strategies or arbitration. - employee team management – Faculty of Mechanical Engineering and Management, field of study - Mechatronics, Management and Production Engineering, second-cycle, 1st semester. During classes, a metaplan is used to show differences between a group and an effective team. Class participants also consider possible difficulties in building a good team. A group discussion enables them to prepare appropriate arguments. Mutual inspiration, cooperation and effective communication make it possible to prepare a poster, which will be shown to all class participants.
	2.2. Taking into account the conditions presented in part 1, in order to quickly increase transversal competences, the following assumptions related to using a metaplan are recommended to be made. A/ Using a metaplan, first and foremost, to develop competences connected with teamwork, creativity and students' communicativeness. B/ When using a metaplan during classes, one should prepare instructions for using this method. Instructions should contain necessary information for students in order to execute a task: - rules for working in groups (group size: from 5 to 30 students, selection of a leader, secretary and reporter as well as characterizing their role and functions), - elaboration on rules for a group discussion, - tasks for each of the groups with questions: a) how a task is solved – indication of errors in a given solution; b) how it should be – presenting the correct solution;

c) why such errors were made – explaining what an error consists in;

d) conclusions – what errors should be avoided;

- presentation of a scheme which will make it easier to create a poster using the metaplan method;

- presentation of the metaplan scheme – schemes should be displayed in full view, time of presentation for each group should be the same;

- self-evaluation of work and presentation, evaluation of particular group members is made by the tutor;

- the final evaluation of a group's work is arranged by the tutor who takes into account students' self-assessment.

C/ The class tutor, setting down the rules for carrying out a discussion, must strive after increasing skills connected with: conveying information in an effective way; listening to and respecting other people's opinions; negotiating; presenting multiple aspects of a given problem; presenting and defending one's own viewpoint; concluding and formulating thoughts in a concise way; solving problems in a creative way; spotting creative solutions and making critical evaluations; cooperating in a group and resolving conflicts.

Having used a metaplan, students get a better understanding of a given problem, are able to indicate a solution and draw conclusions. After this stage, they can begin to use method 3 – drama. Knowing the solution presented in the metaplan scheme, they can assume the role in a more conscious way, which will allow them to solve a problem in a more efficient way.

2.3. Scheme of using the METAPLAN method.
Introductory stage:
- familiarizing students with the main aims of the activity,
- dividing students into groups,
- specifying the duration of work,
- presenting the problem.

Proper stage:
- students write down on sheets of paper an answer to the question: **How is it?** and stick them in a given place on a poster (evaluation of the current situation),
- students write down on sheets of paper an answer to the question: **How should it be?** and also stick them in a given place in the metaplan scheme (pointing to possible improvement of the current situation),
- students write down on sheets of paper an answer to the question: **Why is it not how it should be?** and also stick them on the poster (considering possible reasons for a specific situation).

Final stage:
- each team works on conclusions,
- specifying the content of conclusions, whose implementation will lead to improving the situation.

Scenario of using the metaplan method
Subject: Motivation systems
Form of classes: tutorials
Time of duration: 150 mins. (during 4 teaching hours that is 180 mins. out of which 30 mins. is preparatory-conclusive time).
Topic: "Major problems during designing motivation systems in an organization".

1. Acquainting students with the main tenets of a metaplan (20 mins.)
2. Dividing students into three groups (two 8-person groups and one 9-person group – the whole group numbers 25 persons). Students work for 4 hours in the same

groups; selection of the group leader (10 mins.).

3. Multimedia presentation given by a lecturer and relating to "Designing motivation systems in an organization". The aim of the lecture is to introduce students to a given topic (30 mins.).
4. Providing students with the topic which will be put to analysis using a metaplan (5 mins.).
5. Distributing among students materials used during using a metaplan – large sheets of paper, paper slips in three different colours, marker pens and the scheme of a metaplan (5mins.).
6. Asking students to analyze, drawing on the information gained in the first part of the class and their own knowledge, the problem in three groups and write down their observations and arguments in the metaplan scheme (metaplan points: "How is it?", "How should it be?", "Why is it not how it should be?" and "Conclusions") (30 mins.).
7. Presenting discussion results by the leaders of three groups (30 mins.).
8. Summarizing the analyzed problem by the lecturer.
9. Filling in a questionnaire by students concerning the evaluation of an increase in transversal competences (20 mins.).

Metaplan scheme - example

PROBLEM

Major problems with designing motivation systems in an organization

How is it?	**How should it be?**
Lack of knowledge about designing motivation systems	Designing motivation systems with the help of HR experts
Lack of commitment on the part of employees designing motivation systems	Competent and passionate professionals should be employed
Lack of information about company employees	Individual approach to each employee
Lack of time leads to general tenets of motivation systems	Individual approach to each organization during designing motivation systems

Why is it not as it should be?

Organizational culture, managers' mentality, HR specialists' lack of expertise related to designing motivation systems, shortage of money for analyzing employees' needs and haste lead to ineffective motivation systems.

CONCLUSIONS

- Acquaintance with the stages of designing motivation systems and material and non-material factors affecting employees' performance is the basis for developing motivation systems;
- Acquaintance with employees' needs and individual approach to employees leads to designing effective motivation systems;
- Effective communication among employees and managers in an organization is the basis for recognizing motivating and demotivating factors.

Pedagogical drama

3.1. Drama (in Greek – to act, to do) is an auxiliary method used in teaching diverse subjects. The aim of the person who conducts drama is to create a fictitious situation in which participants can assume various roles. Conducting drama consists of the

following phases: introduction by the class tutor (discussing the initial situation giving rise to dramatic fiction), preparing participants to assume roles, playing the roles by participants, analyzing students' work.

Role-playing is used when teaching various subjects at the Faculty of Management Engineering at Poznan University of Technology.

Subjects connected with the promotion of businesses and products cover instruction in direct selling techniques, which facilitate communication with clients and enhance the power of persuasion when encouraging to purchase products. Different communication techniques are used in particular phases of the direct selling process (first contact with the client, e.g. during a telephone call, introduction to selling, classification of clients' problems, presentation of products, overcoming objections, closing the selling process). Students, working in two-person groups, play the roles of a seller and a buyer in various phases of the selling process, with the seller using communication techniques previously presented by the class tutor. In case of providing services to business entities, the whole selling process is simulated and video-recorded, with selected products of these entities being presented and real objections reported. The recordings are subject to multi-criteria evaluation (ways to communicate, body language, adjustment to buyer's personality, etc.).

In subjects related to international marketing, internationalization of businesses and distribution management, games simulating business negotiations are used. During the game, negotiations which lead to concluding a commercial agreement of a given type (export-import, agency, distribution, joint venture) are imitated. Students play the roles of negotiation team members (chairperson and consultants). The teams receive scenarios which contain descriptions of, among others, business entities represented by the teams and negotiation aims. The aims partly stand in contrast to each other. The scenarios contain data allowing to carry out simple calculations necessary to prepare and conduct negotiations. Apart from scenarios, the teams receive templates of agreements of a particular type. These templates feature typical variants of proceedings when dealing with constituent decision problems. The teams attempt to obtain the highest possible economic and financial benefits. How these benefits are to be measured is decided autonomously by particular teams. Negotiations should result in signing a mutually beneficial agreement. It is, however, allowed not to sign an agreement as a result of differences impossible to overcome. The evaluation of negotiation results is effected by comparing agreements signed by particular pairs of negotiation teams. In case of international student groups, the language of instruction during the negotiation process will be English.

Role-playing is also used during classes where other subjects are taught, e.g. human resources management (playing the roles of: a recruiter and a candidate submitting his/her own CV, a work performance assessor and the assessed), social, interpersonal and business communication (e.g. playing the roles of team members striving after resolving a conflict), decisions and marketing games.

The descriptions featured above are not to suggest that drama is a frequently used teaching method. Tendency to decrease the number of teaching hours of some of the above-mentioned subjects is one of the factors that affects the reduction of frequency and scope of using drama. Analyzing the influence of drama on teaching transversal competences at PUT, one should underline a strong focus on communicativeness (ability to communicate in business) and group cooperation with a relatively lower influence on entrepreneurship and creativity.

3.2. Bearing in mind the conditions presented in part 1, it is recommended to adopt the following assumptions related to using drama in order to accelerate an increase in

skills that make up transversal competences.

A/ Using drama, first and foremost, to develop skills connected with students' entrepreneurship and creativity.

B/ Drama should be more markedly geared towards preparing students for entrepreneurship rather than about entrepreneurship, replicating past entrepreneurial activity.

C/ Drama used in the development of entrepreneurship may assume multiple forms. Drama can be used in the form of "hot seating". Members of a student group take turns sitting on a hot chair and answering questions asked by the remaining members of the group who take on various roles. The class tutor determines the rules of asking questions - for instance, it can be in the form of interrogation during which the person sitting on a hot chair is "cross-examined".

D/ It is assumed that the student sitting on a hot chair presents a business idea or a business plan and must make sure the idea is accepted by others who play the roles of stakeholders (suppliers, intermediaries, bankers, firms financing entities in early phases of development – venture capital, clients, representatives of authorities offering grants, family members, etc.).

E/ Among those asking questions there should be invited entrepreneurs, representatives of chambers of commerce and industry, tutors teaching other subjects, etc.

F/ The general aim is to make students aware of different evaluations of business ideas made by particular stakeholders and their system of values. The class tutor specifying rules related to asking questions must seek to increase skills connected with: initiating and accepting changes, perceiving and critically evaluating entrepreneurial opportunities, planning and creating new unique solutions, taking rational risk, changing ideas into specific activities.

G/ The general concept of the transversal competences developmental process would be the following:

1/ using methods of creative solutions to problems geared towards divergent thinking, e.g. deferred valuation techniques, students generate and - after the break for incubating new ideas – evaluate business ideas,

2/ these ideas are recorded in a metaplan,

3/ using the "hot seating" method, ideas are subject to comprehensive evaluation and correction by students taking roles of stakeholders of a business undertaking and by invited entrepreneurs.

H/ Acceptance of the concept referred to in point "G" is tied with the acceptance of the assumption related to using drama as the third of the methods used in the process.

3.3. Drama will be used within the same subject as brainstorming - "Internet and mobile marketing" in the same group of students at the second-cycle level at the Faculty of Management Engineering, full-time studies, 3rd semester, specialization – Management Engineering (15 hrs of lectures and 15 hrs of tutorials).

Two meetings are planned.

A. **Meeting I** - (time of duration: 90 mins.)

- introduction to drama (general rules, types, applications). The type of drama to be used will be "hot seating". Students in a given group take turns sitting on a hot chair and answering questions asked by the remaining members of the group taking on various roles. (15 mins.)
- choice of subject matter – continuation of the concept developed as a result of brainstorming and related to running a blog and the range of benefits the blog is to

	bring. (5 mins.) - dividing students into groups – students will work in the same groups as in the case of brainstorming – minimum 5 persons, maximum 12, in each group one person who will sit first on a "hot chair" should be chosen - (5 mins.) - discussing the rules of proceeding during the implementation of drama. The class tutor determines the rules for asking questions – form of interrogation during which the person sitting on a hot chair is "cross-examined". (10 mins.) • Execution of a task using drama – the person sitting on a "hot chair" will play the role of a blog creator and will defend his/her idea and the way of presentation. The student must convince other participants playing the roles of blog users/readers that this is a good idea. Each member of a given group will be sitting on the chair for 5 minutes. The task lasts until all the "blog creators" present their ideas. (45 mins. – if there are more than 9 persons in the group, the time for individual presentations must be shortened to 4 mins. for each student). • The class tutor must ensure fair and equal rules of participation (number of utterances, right to speak) for all the participants. • Drama is summarized by encouraging all the participants to choose the most interesting ideas for blogs and the most interesting presentations. (15 mins.) The meeting, with the participants' permission, may be recorded (voice recorder or video camera) so that fragments of FGI with the participants' emotional involvement could be analyzed for educational purposes. **B. Meeting II** – it is recommended that the meeting be held directly after meeting I, maximum break – 2 hrs - (time of duration 45 mins.) The last stage of the method ends with a questionnaire whose aim is to evaluate an increase in students' transversal competences as part of practical training (appendix 3 to the instruction) and with a questionnaire to measure the dynamics of changes in the evaluation of acquired transversal competences (level of changes) (Appendix 2 to the instruction). All students participating as testers in the tested processes of practical training take part in the survey. Meeting II will be summarized with a discussion on the efficiency of used methods: brainstorming, metaplan, and drama and on their potential application in solving educational, professional and common social problems. At the last meeting entrepreneurs will be engaged. Three companies that are the participants of the Partner in the Project WCIC will take part in testing process as observers of it.

The second process of developing transversal skills as part of practical training

March, 2017

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SHEET OF A MODEL OF THE SECOND PROCESS OF DEVELOPING TRANSVERSAL SKILLS AS PART OF PRACTICAL TRAINING

I.	**No. of intellectual work result**	O5	**II.**	**Testing period**	27 February 2017 - 31 October 2017
III.	**Partner conducting testing**		**Centria University of Applied Sciences**		

1. Process presentation

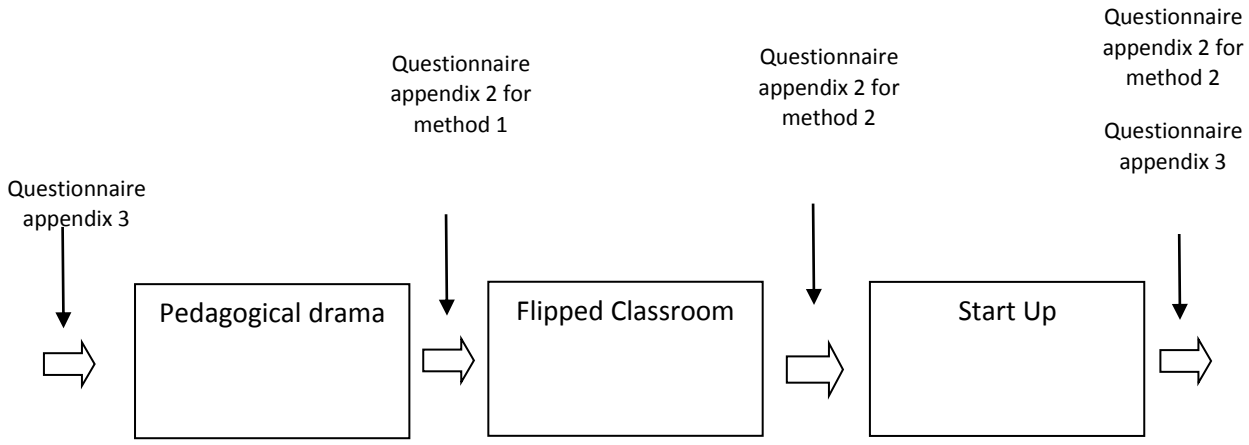

Figure 1. Application of practical teaching methods in process 1

Number of method in the process	Practical teaching method	Quartile	Rank	Entrepre-neurship (E)	Creativity (Cr)	Communi-cativeness (Com)	Teamwork (T)	Group of methods	Result
1.	Pedagogical drama	I	19	0.77	1.00	0.72	1.00	Other methods	3.49
2.	Flipped Classroom	II	43	0.95	1.08	0.88	0.92	Other methods	2,99
3.	Start Up	I	5	1,29	1.25	0.72	0,75	Other methods	4,01

2. Analysis of the ways of using practical teaching methods selected for the process of developing transversal skills

Methods	Analysis
Pedagogical drama	1.1. Pedagogical drama means experiential, collaborative and problem-solving oriented learning approach to the work, taking advantage of the drama and the students' ability to express improvised drama situation. Drama is an auxiliary method used in diverse teaching subjects. The aim of the person who conducts drama is to create a fictitious situation in which participants can assume various roles. Conducting drama consists of the following phases: introduction by the class tutor (discussing the initial situation giving rise to drama fiction), preparing participants to assume roles, playing the roles by participants and analyzing students' work. Role-playing is used teaching various subjects in NY Star Up –course at the Faculty of Management Engineering at Centria University of Applied Sciences in Ylivieska. Ny Start Up –course is an entrepreneurship course, 10 credit points, and it is elective course. Students, working in 5 persons groups, can play the roles of the owner of the company, consultants, bookkeeper, customer, the financier of the company or a buyer in various phases of the selling process, regarding of the problems, playing the roles of team members striving after resolving a conflicts and problems, which they might have in business at their start-up companies. The teams receive scenarios, which contain descriptions of, among others, business entities represented by the teams and negotiation aims. The teams attempt to obtain the highest possible economic and financial benefits. Drama develop the skills and abilities that entrepreneurship education is to support and which is also valued in many different field of work. Drama develops students' self-expression and comprehension, as well as independent mindset and trust in him/herself. It will also strengthen communication skills, as well as the communal discussion and problem-solving abilities. In practice, you can be utilized in many different drama techniques, such as workshops, or based on a number of different drama working models. In general, the process is carried out for the drama (Brennan & Pearce, 2009) on the basis of the group's instructions and drama to be presented at the end of the work of the other members of the learning community. Role-playing can also be used during classes where other subjects are taught, e.g. selling the products or services, marketing the start-up companies, social, interpersonal and business communication, and decisions making.
	1.2. In this case the drama will be used estimating the future and continuing development of the NY Start Up companies, which students have established (idea development, cooperation, planning for the future, consulting other companies of students with their problems for example getting new customers, bettering the products or services, lowering the costs, getting more benefits, even closing the business). It is recommended to adopt the following assumptions related to using drama in order to accelerate an increase in skills that make up transversal competences. Drama-based instruction generates and cultivates many cognitive skills. Of these skills, the following are important for ensuring a student's success in school: • language and communication abilities • problem-solving / critical thinking skills • decision making capabilities • creativity and imagination

	• collaboration skills. A/ Using drama, first and foremost to develop skills connected with students' entrepreneurship, creativity, teamwork and problem solving. B/ Drama used in the development of entrepreneurship may assume multiple forms. Students can play the roles of consultants, stakeholders and customers (suppliers, intermediaries, bankers, firms financing entities in early phases of development – venture capital, clients, representatives of authorities offering grants, family members, etc.). C/ Among those asking questions there should be invited entrepreneurs, representatives of chambers of commerce and industry, tutors teaching other subjects, etc. D/ The general aim is to make students aware of different evaluations of business ideas. The class tutor specifying rules related to asking questions must seek to increase skills connected with: initiating and accepting changes, perceiving and critically evaluating entrepreneurial opportunities, planning and creating new unique solutions, taking rational risk, changing ideas into specific activities. E/ The general concept of the transversal competences developmental process would be the following: using methods of creative solutions to problems geared towards divergent thinking, e.g. deferred valuation techniques, students generate and evaluate their business better.
	1.3 Drama will be used within the NY Start UP/ Entrepreneurship –course. The students at the third-cycle level at the Faculty of Management Engineering, full-time studies, 6th semester, specialization – (15 hrs of lectures and 15 hrs of tutorials. Totally this course is 270 hours, students are at university on Mondays during 5 months and other days they are working out of school at their start- ups.). Two meetings are planned on 27th of February and one week before the meeting day students has gotten the task to find out and analyse their start-up companies, what kind of problems do they have in business. This meeting starts with a questionnaire 3, which aim is to measure the transversal competences, before using these methods testing. **Meeting I** - (time of duration: 15 min.) - Introduction to drama (general rules, types, applications). The type of drama to be used will based on interpretations, which often bring new perspectives to the subject matter and the presentation of work is largely a symbolic level, and thinking, which is used, when you want to evaluate and review the events, develop new solutions etc. - Choice of subject matter – continuation of the concept developed as a result of business problems within the Start Up companies grounded by the students. (15 min.) - Dividing students into groups – minimum 5 persons in each group - Discussing the rules of proceeding during the implementation of drama. (15 min.) The class tutor must ensure fair and equal rules of participation (number of utterances, right to speak) for all the participants. The students make videos of the problems of their companies. And plans what kind of drama they would have. They have 90 minutes time to make that. Time using

	this is together 15 min + 90 min + 30 min + 45 min. **B. Meeting II** – it is recommended that the meeting be held directly after meeting I. Drama is summarized by encouraging all the participants to choose the most interesting ideas for companies development and the most interesting solving problems of the Start Up companies, which students are going to made. Students´ roles are company´s owner, consultants, stakeholders, customers, bookkeeping, marketing manager etc. The last stage of the method ends with a questionnaire 2, which aim is to evaluate an increase in students' transversal competences as a part of practical training with a questionnaire to measure the dynamics of changes in the evaluation of acquired transversal competences (level of changes) (Appendix 2 to the instruction). All students participating as testers in the tested processes of practical training take part in the survey. Meeting II will be summarized with a discussion on the efficiency of drama methods and their potential application in solving educational, professional and common social problems. (30 mins.)
Flipped classroom	2.1 Flipped classrooms redefine in-class activities. In-class lessons accompanying flipped classroom may include activity learning or more traditional homework problems, among other practices, to engage students in the content. Class activities vary, but may include: in-depth laboratory experiments, original document analysis, debate or speech presentation, current event discussions, peer reviewing, project-based learning, and skill development or concept practice. The flipped classroom intentionally shifts instruction to a learner-centred model in which class time explores topics in greater depth and creates meaningful learning opportunities, while educational technologies such as online videos are used to deliver content outside of the classroom. In a flipped classroom, content delivery may take a variety of forms. Often, video lessons prepared by the teacher or third parties are used to deliver content, although online collaborative discussions, digital research, and text readings may also be used. Students can use in this method their own videos, which they made in drama lessons. When making use of a flipped classroom during solving a problem, students work in a group, actively listen to each other, look for creative solutions and communicate effectively with each other in order to present their opinions. Students can use the materials in internet at http://nystartup.fi/ -pages in this method.
	2.2. A teacher's interaction with students in a flipped classroom can be more personalized and less didactic, and students are actively involved in knowledge acquisition and construction as they participate in and evaluate their learning. Flipped learning + Peer instruction Interactive method based on collaborative work that has proven effective in areas such as science, technology, engineering and mathematics. Specifically consists of sharing with other students a different response to their own and explain the reasons that support the same to learn from each other. In this process the reasoning beyond the answers is analyzed. Flipped learning + cooperative learning There may also be a symbiosis or complementation between the flipped classroom

technique and cooperative learning. Schoolwork, also commonly known as "homework", is done jointly and in cooperation with the group as the teacher moves the time spent explaining the subject to the flipped classroom method. In this way, the student has to assimilate and understand the content of more theoretical weight at home, through the recordings made by the teacher, and the time in class is dedicated to the development of tasks and problem solving and / or doubts through cooperative learning.

Flipped mastery learning

When the invested learning model is applied in a more advanced way. Educators begin by organizing content around specific goals. Students work on course content at their own pace and upon reaching the end of each unit, they must show mastery of learning objectives before moving on to the next topic and so on (Bergmann and Sams, 2013). Students can show evidence of their learning through videos, worksheets, experimental stories, programs, projects, examples, among others. There are two challenges in the flipped-mastery model: the first is to deliver instruction to students when they have different levels of learning and understanding of the subjects.

Flipped learning + gamification

A step forward in the flipped-mastery model would be to include gamification elements in the learning process. Gamification is the application of game mechanisms in situations not directly related to games. The basic idea is to identify what motivates a game and see how it can be applied in the teaching-learning model. The results of the fun theory research have showed that fun can significantly change people's behavior in a positive sense, the same effect it has on education.

A/ Using a flipped classroom primarily, to develop competences connected with teamwork, creativity and students' communicativeness.

B/ When using a flipped classroom during classes, students should prepare instructions for using this method. Instructions should contain necessary information for students in order to execute a task:

Having used a flipped classroom, students get a better understanding of a given problem, are able to indicate a solution and draw conclusions.

2.3 Scheme of using the flipped classroom method. We are using this method at 3rd of April with the same students as used pedagogical drama.
The students have one-week time earlier to become familiar with flipped classroom method as homework.

I Meeting: Introductory stage:

- familiarizing students with the main aims of the activity,
- dividing students into groups,
- specifying the duration of work,
- presenting the subjects of the lessons. (15 mins.)

The students are working 5 member's teams, and choose some of these subjects: New business operations, Bookkeeping, and Marketing. The teams have time to make presentations of each theme and decide how to present theme to others. (90 mins.)

	Presentations: teaching in groups the themes to other students. Each team has 15 minutes + 10 minutes discussing. (75 mins.) The last stage of the method ends with a questionnaire 2, which aim is to evaluate an increase in students' transversal competences as a part of practical training with a questionnaire to measure the dynamics of changes in the evaluation of acquired transversal competences (level of changes) (Appendix 2 to the instruction). All students participating as testers in the tested processes of practical training take part in the survey. Meeting will be summarized with a discussion on the efficiency of flipped classroom methods and their potential application in learning. (30 mins.)
Start Up	3.1 NY Start Up is a university course where students will be able to form a student company. Students can create their own ideas and test them in the real market using real money. The goal of the program is to create and test students´ own idea or object of passion. Students have an opportunity to get a glimpse into the world of entrepreneurship without great financial risks. As a bonus, students have a possibility to create a business operation afterwards or develop important networks for the future. Startup is a practical teaching method learning by doing. Junior Achievement Start Up Program is aimed at university and college students. The program is carried out as a part of the institution's own curriculum. The program's requirements may be changed to suit individual institutions. This flexibility enables the program to fit the goals of different curricula without forgetting creativity and enthusiasm. JA (Junior Achievements) program Finland's goal is to advance entrepreneurial attitude and an active lifestyle among Finnish youths by increasing their knowledge of entrepreneurship, providing entrepreneurial experiences, enhancing readiness for working life and financial management skills. JA (Junior Achievements) program wishes to encourage and support universities to open their doors for the surrounding society. JA programs include pre-designed roles for business volunteers, which make bridging the gap between schools and companies easier.
	3.2 NY Start up is a practical hands on learning model for entrepreneurship, testing students´ ideas in practice, and improving working life skills. NY Start Up -company is a motivating learning environment for the students and they can work many months within their own idea. This will convert the normal school only the learning goals to a real-life experience. This course started in October and it is in process until the end of April as a part of JA (Junior Achievements) Entrepreneurs and NY Start Ups. Students have made Business Canvas and Business Plans in this course and now their companies is in working. In February, March and April the students have business in their companies, working as a real start ups. This method is learning by doing: A Student Company is a practice company founded by students during their studies. A Student Company operates on real money, selling tangible products, and services to their real customers. NY Start Up is a program designed to change mindset of a student from passive learner to active and entrepreneurially minded future maker. The company will function as a test lab for students' ideas, provide a possibility to put working life skills into practice, and give students' a picture of what it is like to work in a small private company.

Personal skills are general working life capabilities such as interaction, negotiating and teamwork skills. These are learned through idea development, negotiations with stakeholders and customer meetings.

Business skills have to do with starting an enterprise and the abilities learned during the process such as marketing(in person, digital), accounting basics(cost accounting and financial management), group motivation and spotting strengths (leadership, organisation).

Development of innovation skills is a process from idea creation and evaluation of operational environment to idea's productzation and piloting to the right customers.

Also JEDU (Jokilaaksojen koulutuskuntayhtymä - the second grade in this area) has students´ Start Ups as a method of teaching. They have cooperative company, where the students can go to the practical training and those entrepreneurs support the education in Jedu in that way. And students go working to these companies as practical training and at the end of the training students have the skills testing. There are teachers and entrepreneurs to evaluate them.

One of our students has made a presentation of the cooperative compan of pupils of Jedu and Centria students have evaluated the method and its benefits for having the same kind of company also with students of Centria, which might be possible in the future.

The students of start ups of Centria have visited many of those companies behind the Jedu, sponsors of Jedu and Centria, and also entrepeneurs have visited the start up course of Centria. For example some Ceos from those companies has been teaching to start up students the marketing and the management. And also the students who have the consulting companies have had negotiations with the companies for getting them customers. So those companies are also the customers of students´ start ups. Also the financing and insure companies have had negotiations and cooperation with start up companies of students, because these start ups need financing.

In April there are in Helsinki, the capital of Finland, the final happening to start ups of all university and colleges as a competitions and there will elect the best students´ best start up in Finland in the year 2017. There will be 2 best of our companies from Centria and also Jedu sends to Helsinki Final some start up companies of Jedu´s pupils. All students´ companies will take part of this happening and follow the competitions.

3.3. JA Start Up companies provide a basis for creativity and innovation and enable students to try their ideas in practice. They also see the profitability and risks of the business.

Scheme of using Start up –method in the Week 17, on 24th of April, 2017. It is last time of the NY Start Up –course. Evaluating the NY companies, to close the company or make a real business. Self-estimates of the students, and coaches estimates, too. Decisions about the ending NY Start Up company or make Business succession.

Starting with teachers (15 mins) telling what the seminar is containing and the content of the day.

Presentations of the NY Start Up Companies and their Annual Reports:

These are students´ companies, which they have established during this Start Up –course **These are students´ companies, which they have established during this Start Up –course** **and these companies are working during that course, they are working with real money and they have real customers from the companies. And after the start up -course students can decide to continue as an entrepreneurs or close the business. That is why they have final reports at the end of the course.**

These are the students and their companies:

RP Mediaservice NY– Mattila Taneli, Alahäivälä Joona, Raudaskoski Joona &Vihtori Hänninen

Juha Valkola Consulting NY

Tuukka Liukko Consulting NY

SomeWelhot NY – Huusko Petteri

SEGOLL NY – Ollila Roope

Riitta Saarelainen Consulting NY

JOKILAAKSON KASTEPUU NY /BATI, The Babticm Tree, Matias Salmikangas & Jani Röytiö

Johanna Arvola/Ilona lastenpukimo NY

Mahtitukku NY/Jani Palola

Jemily NY/ Jenny Mikkilä

Hanne Vähäkuopus Ompelimo

Students have already made innovation and planning (ideation, team, and business model), they have been planning the business (networking, validating the idea, operation plan), piloting and testing original ideas (contacting customers, validating the idea and evaluation), and they have established the NY Start Up –companies, running the business with real money and real customers. The Interim Report and the Annual Report. Have the students made themselves a possibility to create a business operation after graduating or develop important networks for the future? Preparing at home the reports and presentations.

Now they had to estimate and evaluate the future and continuing development the company or close the business. (Idea development, cooperation, planning for the future, making better business plan, whether this business is profitable etc.). Also, peer review.

Afternoon Seminar, where all students have the presentation of their companies, annual reports and what kind of experience they have during these moths, when they have planned their companies, made business plans, and started the business. (90

	mins) **The discussing part as a learning café.** Discussing about the future of start-ups and entrepreneurship. **(30 minutes)**
	The last stage of the method ends with a questionnaire 2 and 3, which aim is to evaluate students' transversal competences as a part of practical training with a questionnaire to measure the dynamics of changes in the evaluation of acquired transversal competences. All students participating as testers in the tested processes of practical training take part in the survey. Meeting will be summarized with a discussion on the efficiency of star up - methods and students potential application in learning business and effect on attitudes and willingness to become entrepreneurs.

The third process of developing transversal skills as part of practical training

March, 2017

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SHEET OF A MODEL OF THE THIRD PROCESS OF DEVELOPING TRANSVERSAL SKILLS AS PART OF PRACTICAL TRAINING

I.	**No. of intellectual work result**	O5	**II.**	**Testing period**	01 March 2017-30 June2017
III.	**Partner conducting testing**		University of Maribor - Faculty of Economics and Business		

1. Process presentation

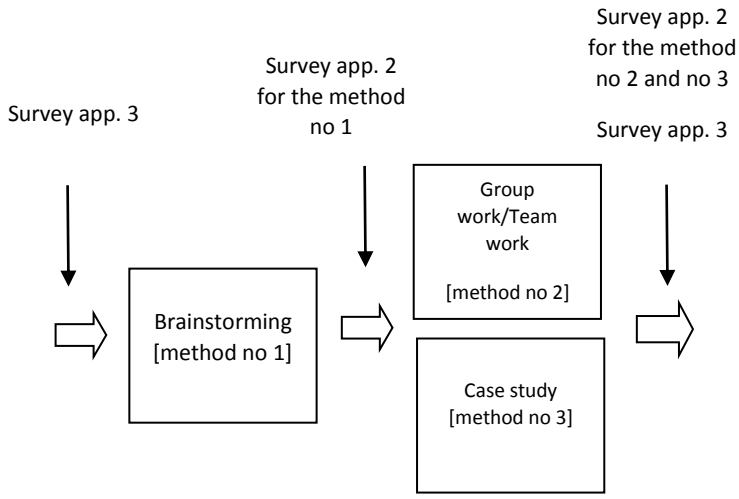

Figure 1. Application of the practical training methods in designed process

Table 1. Selection of the practical training methods for designing process based on the matrix of the dependencies between practical teaching methods and an increase in students transversal competences.

No the method in the process	Name of practical teaching method	Quartile	Rank of the method in matrix	Entre-preneur-ship	Crea-tivity	Commu-nicati-veness	Team-work	Group of methods	Impact of the method on 4 transversal competences
1.	Brainstorming	I	3	0.97	1.25	0.96	0.94	Problem-solving methods	4.11
2.	Teamwork	I	15	0.65	0.68	1.02	1.26	Problem-solving methods / Activating methods	3.60
3.	Case study	II	24	1.03	1.00	0.60	0.82	Problem-solving methods / Activating methods	3.44

2. Analysis of the ways of using practical teaching methods selected for the process of developing transversal skills

Methods	Analysis
Brain-storming	1) One of the practical teaching methods selected for the testing process of developing transversal skills is brainstorming. Brainstorming (Business Dictionary, 217) is a process for generating creative ideas and solutions through intensive and freewheeling group discussion. Every participant is encouraged to think aloud and suggest as many ideas as possible, no matter seemingly how outlandish or bizarre. Analysis, discussion, or criticism of the aired ideas is allowed only when the brainstorming session is over and evaluation session begins. Brainstorming (MindTools, 2017) combines an informal approach to problem solving with lateral thinking. It encourages people to create thoughts and ideas that can, at first, seem fuzzy (out of their normal ways of thinking). Some of them can be crafted into new, creative solutions, while others can spark even more ideas. During brainstorming sessions, people should avoid criticizing or rewarding ideas. This opens up possibilities and breaks down incorrect assumptions about the problem's limits. Judgment and analysis at this stage stunts idea generation and limit creativity. Ideas are evaluating at the end of the session. Brainstorming provides a free and open environment that encourages everyone to participate. When used during problem solving, brainstorming brings team members' diverse experience into play. It increases the richness of ideas explored, which means better solutions to the problems. Brainstorming helps team members bond, as they solve problems in a positive, rewarding environment. While brainstorming can be effective, it is important to approach it with an open mind and a spirit of non-judgment. If participants do not do this, the number and quality of ideas plummets, and morale can suffer. In Slovenia, at University of Maribor, Faculty of economics and business (UM FEB), faculty teachers use usually the Alex Faickney Osborn (Osborn, 1953 and later) brainstorming, with some modifications. This extraordinary means of creative thinking is according to UM FEB former Full Prof. Dr. Janko Kralj carried out as follows (Kralj, 1995, p. 378, supplemented with the last bullet point): • Participants take part in small groups (5–12 people), they are separate from the other, and no one bothers them. They must be well informed about the problem and "warm up" to solve the problem. • In the first part of creative thinking, which lasts 20 minutes, they collected ideas: Each participant says what he remembers; he may also present unusual ideas. Criticism or mockeries are not allowed, the authorship is ignored. Ideas are complementary and transparent recorded. • The next 20 minutes are dedicated to maturing. Each participant is considering about the collected ideas. • Then participants are governing ideas: Unusual ideas they transform into useful or discarded them; they combine the ideas and prepare a table of ideas; they seek priority ideas. • The next step is to criticize priority ideas and other ideas in the role of devil's advocate. With extremely sceptical views on the proposals is necessary to promote critical thinking. This is a reversal brainstorming: how an idea fails. In this way remain just good ideas that are worthy of further study. • Good ideas that remain participants need to combine and improve them: As suggested by the slogan "1+1=3" they need to find a synergy among them. For latter some faculty teachers (e.g. Assist. Prof. Dr. Tjaša Štrukelj) encourage participants to combine the brainstorming method with the Mulej's (1974 and later; Mulej et al., 2000; 2013) Dialectical Systems Theory, which refers to synergy, interdependency and holistic approach. Brainstorming solution findings with a systemic approach were at the Faculty of Economics and Business encouraged e.g. with of the workshop of Kovačič (2015), to develop the skills of systems thinking. We used gamification, which is becoming a modern approach to solving

	specific business challenge. Gamification element has represented rewarding. Participants were evaluated according to the principle: the more ideas – the higher the score. The participants in the first phase focused on the addressing of all, in their view, essential viewpoints of a given challenge. Of all the viewpoints identified, they choose a few significant for them. In the second phase, the participants focused their attention on the dealing with all significant relationships (linkages) between the selected viewpoints. In the end of this phase, they also among the identified relationships selected a few significant for them. This was followed by the third phase, when the participants for the selected significant viewpoints and significant relationships (linkages) between them looked for the synergy effects – wrote a single most important statement that could represented an important development opportunity for the enterprise (as an answer to a specific business challenge that was solving). In the context of gamification, the participants received a request from the Director. In their solution, they had to highlight how the enterprise will be able to comply with the request of the key value of corporate social responsibility – 0% waste in the production in 2020. Director has requested products, which will be sustainable and developmental solutions that will support social responsibility. By raising awareness of the need for systemic thinking, we get more holistic solutions that included all and only the essential viewpoints, the significant relationships (linkages) between them and synergistic effects. Brainstorming method is at the University of Maribor, Faculty of economics and business (UM FEB) used especially at both first- and second-cycle levels of full-time and part-time courses. As an example of using diverse practical teaching methods (also brainstorming) in practical classes in a business subject UM FEB (Belak et al., 2016, pp. 78–79, supplemented), we describe the course 'Enterprise Policy and Strategic Management' at UM FEB. The course is delivered to the students of last (third) year of professional undergraduate study programme. We describe this example from the personal experiences viewpoint. Usually, the practical teaching process in this subject starts with an empowering example with the aim to develop appropriate values, culture and ethics among students. In this subject, students learn how to make decisions as owners/governors and/or top managers of an enterprise or other organisation. To teach responsible values, appropriate culture and ethical attitudes, the teacher and the students first discuss their values, culture and ethics through stories with a moral lesson. A moral precept and the importance of moral behaviour for every person in the world are discussed. This is followed by a revision of essential theoretical starting points that are needed for work in the each time specific teaching process subject together with examples from practice. At this stage 15–20 minutes are devoted to brainstorming method, with students delivering ideas of practice examples associated with this specific teaching process subject. During the teaching process, students learn how to choose a large amount of cases, even bizarre ones, and their ideas complement other students. The teacher directs students to connect practical examples provided by students with content of the course. At the end of this process, presented examples are critically assessed and highlighted the particularly useful examples. In this way, students learn to integrate theory with practice. After that, the students are divided into an even number of groups and they receive their tasks. Each of the two groups that form a pair has the same task, but this task is different from the task of other 'two group pairs'. Therefore, students usually solve two or three different tasks (problems of two or three different enterprises). This, of course, depends on the number of groups (e.g. 4 groups – 2 tasks; 6 groups – 3 tasks). After they confirm that they understand their tasks, students use teamwork method to solve these tasks. When the time allocated for teamwork ends, students report their solutions to their colleagues. Since one of the aims of the subject 'Enterprise Policy and Strategic Management' is for students learn how to make decisions as enterprise owners or top managers, the solution of each group solving the same task may be different although both can be correct. A higher mark is given to the group, which gives a correct solution (i.e. the solution based on correct theoretical backgrounds transferred to a concrete example / task at hand), which must also be well justified (i.e. the students present better arguments). Therefore, the students develop a group discussion about the solution found, which is better also because of using brainstorming method at the beginning of the tutorials.

	2) According to our further analysis there are several possible ways in which further stages of using brainstorming at University of Maribor, Faculty of economics and business (UM FEB) should/could be conducted so that an increase in transversal competences, including skills making up these competences, could happen as quickly as possible. UM FEB retired Full Prof. Dr. Štefan Ivanko suggests solo brainstorming (Ivanko, 1996, p. 71), 6–3–5 brainwriting (also 635 Method, Method 635) (ibid., p. 71), and brainwriting pool (ibid., p. 73). Clarification: • Solo brainstorming (Ivanko, 1996 p. 71) uses individual person at himself. One relaxed and confidently produce ideas which he latter evaluate. In doing so the group processes do not apply. Several studies have shown (MindTools, 2017) that individual brainstorming produces more – and often better – ideas than group brainstorming. This can occur because groups are not always strict in following the rules of brainstorming. Mostly, though, this happens because people pay so much attention to other people that they do not generate ideas of their own – or they forget these ideas while they wait for their turn to speak. This is called "blocking". When you brainstorm on your own, you do not have to worry about other people's egos or opinions, and you can be freer and more creative. However, you may not develop ideas as fully when you are on your own, because you do not have the wider experience of other group members to draw on. In group brainstorming you can take advantage of the full experience and creativity of all team members. When one member is stuck with an idea, another member's creativity and experience can take the idea to the next stage. Participants can develop ideas in greater depth with group brainstorming than individual person can with individual brainstorming. • 6–3–5 Brainwriting (or 635 Method, Method 635) is a group-structured brainstorming technique (McNicholas, 2011) aimed at aiding innovation processes by stimulating creativity developed by Bernd Rohrbach (Rohrbach, 1968). In brief, it consists of 6 participants supervised by a moderator who are required to write down 3 ideas on a specific worksheet within 5 minutes; this is also the etymology of the methodology's name. The outcome after 6 rounds, during which participants swap their worksheets passing them on to the team member sitting at their right, is 108 ideas generated in 30 minutes. The technique is applied in various sectors but mainly in business, marketing, design, writing as well as everyday real life situations (McNicholas, 2011). On each worksheet that participants receive (Ivanko, 1996, p. 72), they must attribute three ideas. Prior to this, they should read already written ideas and try new ideas associated with them, transform them or used otherwise. • The brainwriting pool is a brainwave technique, which is also a group brainstorming. It was first described by Helmut Schlicksupp (1943–2010) in 1975 as creative ideas for enterprises (Schlicksupp, 1975). This technique of creative co-operation (Ivanko, 1996, p. 73) is similar to the method 635, but participants do not need the ideas, written on the worksheet, give forward in a certain order. Participants are seated at the table. In the middle of the table is a bunch of worksheets, which may be empty or they could have written a few ideas. This bunch of worksheets is called "pool". When a participant on a worksheet records his ideas, deposit it in the middle of the table. At the same time, he takes a new worksheet in which another participant has already written a few ideas; these ideas he has to read and try to add new ones. When using the worksheet he has no more ideas, he returns it to the middle of the table and takes a new one. Participants repeat this until they can produce ideas. Evaluation of ideas follows later. When evaluating all ideas can be classified into three groups: (1) the useful; (2) could be useful, but need to be further developed; and (3) unusable. Ideas can also be grouped according to their similarity; we can then make the evaluation within each group. In assessing the value of ideas, we must take into account the realization that the most popular ideas are usually not the best. The most creative ideas because of their originality, strangeness or shocking effect usually do not attract other participants. You often get the best results by combining individual and group brainstorming (MindTools, 2017).

	3) In this section, we will describe the way in which brainstorming method will be used in the testing process, which is described in the present document (compatibility of the description with the point 2 is ensured). The method will be used as a part of the subject "Management of small and medium-sized enterprises" in a group of first-cycle students at the University of Maribor, Faculty of economics and business (UM FEB), full-time studies, 6th semester, elective subject for all students of the program (the subject taught during 30 hrs. of lectures and 30 hrs. of tutorials). Two meetings are planned (weeklong interval between meetings is recommended). **Meeting 1** (90 minutes): • Step 1: Introducing students with the content of the Erasmus+ project "The acceleration method of development of transversal competences in the students' practical training process" (10 minutes). • Step 2: Introducing students with the competencies to be developed in the process (entrepreneurial skills, communicativeness, creativity and teamwork skills) (10 minutes). • Step 3: Introducing students with the testing process of developing transversal skills as part of practical training (including the planned implementation – on which meetings and how long will be the performance of this process carried out) (15 minutes). • Step 4: Implementation of the survey "Questionnaire for assessment of the evaluation of transversal skills level of the students in practical teaching process (the level of possessed skills)" (app. 3 of instructions, part one) (10 minutes). • Step 5: Lecture on the topic Success factors in the start-up and development of the enterprise (this is the theme of the subject "Management of small and medium-sized enterprises"). At the end of the lecture, the lecturer should explicitly explain students, that their results of Meeting 2 work will be better if they will be theoretically prepared (if they will know the theory) (45 minutes). **Meeting 2** (2 hours and 30 minutes; plus 5–10 minutes pre-class preparation and 15 minutes pause): • Step 1: Pre-class preparing a comfortable meeting environment and resources needed (post-it notes, colour sheets and pens of different colours, flip chart or whiteboard) (5–10 minutes). • Step 2: Introducing students with the brainstorming method to be applied (general rules, application) and criteria we must meet. The teacher must explain which competence's abilities will be especially developed, when applying the method brainstorming. For the competence entrepreneurship, e.g. ability to invoke and accept changes and ability to create new unique solutions. For the competence creativity, e.g. ability to create original and useful solutions to problems. For the competence teamwork, e.g. ability to become active and engaged in tasks. For the competence communicativeness, e.g. ability to express and defend one's own opinion (25 minutes). • Step 3: Introducing students with the inclusion of an entrepreneur from practice. With entrepreneur, we will solve the problem from practice (and an entrepreneur will play an active role during the whole process of brainstorming) (5 minutes). • Step 4: Entrepreneur's introduction (5 minutes). • Step 5: Introducing students with the problem from practice and "warming up" them: Clearing on the problem to be solved, related to the success factors in the start-up and development of the enterprise. Students have to be well informed about the problem (10 minutes)! • Step 6: Students independently from each other identify the various viewpoints to solve the problem. They have to have enough quiet time to write down as many ideas as they can. The ideas are recorded on the colour sheets; each student has another colour of the sheet; each student on the upper left corner writes "Viewpoints" (3 minutes).

	• Step 7: Teacher writes the number of collected ideas for each student on the clip chart or whiteboard (2 minutes). • Step 8: Students pass their colour sheet to the student on the left. All students are required to read already written ideas and again independently from each other identify (and write down) the various viewpoints to solve the problem. They should try new ideas associated with already written ideas, transform them or use them otherwise. They have to have enough quiet time to write down as many ideas as they can. The ideas are recorded (version of 6–3–5 brainwriting) (3 minutes). • Step 9: Students get their colour sheet back. They again try to find as many as possible new viewpoints to solve the problem. The idea is maturing. They have to have enough quiet time to write down as many ideas as they can. The ideas are recorded (3 minutes). • Step 10: Teacher writes the number of additional collected ideas for each student on the clip chart or whiteboard. The "winner" is the student with the bigger number of collected ideas (2 minutes). • Step 11: Students independently from each other subjectively identify the 3–5 for them the most important viewpoints to solve the problem (and circle them with another colour) (2 minutes). • Step 12: Students get the second sheet of paper in the same colour. They independently from each other identify the various relationships (linkages) between the selected viewpoints. They have to have enough quiet time to find and write down as many relationships (linkages) as they can. The relationships (linkages) are recorded on the colour sheets; each student on the upper left corner writes "Relationships (linkages)" and below that he records "The selected most important viewpoints: viewpoint 1, viewpoint 2, …, viewpoint n" (3 minutes). • Step 13: Teacher writes the number of collected relationships (linkages) between the selected viewpoints for each student on the clip chart or whiteboard (2 minutes). • Step 14: Students pass their colour sheet to the student on the right. All students are required to read already written relationships (linkages) and again independently from each other identify the various relationships (linkages) between the viewpoints their colleague has selected as most important to solve the problem. They should try new ideas associated with already written ideas, transform them or use them otherwise. They have to have enough quiet time to write down as many ideas as they can. The ideas are recorded (version of 6–3–5 brainwriting) (3 minutes). • Step 15: Students get their colour sheet back. They again try to find as many as possible relationships (linkages) between the viewpoints to solve the problem. The idea is maturing. They have to have enough quiet time to write down as many relationships (linkages) between the viewpoints as they can. The ideas are recorded (3 minutes). • Step 16: Teacher writes the number of additional collected relationships (linkages) between the viewpoints for each student on the clip chart or whiteboard. The "winner" is the student with the bigger number of collected relationships (linkages) between the viewpoints they pointed out to solve the problem (2 minutes). • Step 17: Students independently from each other subjectively identify the 3–5 for them the most important relationships (linkages) between the viewpoints, they pointed out to solve the problem (and circle them with another colour) (2 minutes). • Step 18: Students get the third sheet of paper in the same colour. They independently from each other identify the synergies among 3–5 most important circled significant viewpoints and relationships (linkages) between the viewpoints they pointed out to solve the problem. This means that from selected relationships between the selected viewpoints students write a sentence that best exemplifies viewpoints and links between them, which they consider most important for the solution of the problem to be solved; students also write a keyword (keyword phrase), which upon their opinion best describes the problem solution. In such a

	way, we get their personal solutions to the problem. For example, student selects an idea for the product (described with keyword/keyword phrase), which he would recommend to start producing and selling on the market (taking the success factors in the start-up and development of the enterprise into consideration). This would be his solution of the problem, which he then describes with the selected most important viewpoints and relationships (linkages) detected so far. Student writes very convincingly sentence that describes the product, he would propose to the enterprise. The synergies and keywords (keywords phrases) between viewpoints and relationships (linkages) are recorded on the colour sheets; each student on the upper left corner writes "Synergies", below that he records "The selected most important viewpoints: viewpoint 1, viewpoint 2, …, viewpoint n" first, and below that he records "The selected most important relationships (linkages): relationship (linkage) 1, relationship (linkage) 2, …, relationship (linkage) n" (4 minutes). • Step 19: Students pass their colour sheet, on which writes "Synergies" on the upper left corner, in the middle of the table. This bunch of worksheets is called "pool". Each student takes one colour sheet that is not his and read already written synergies and keywords (keyword phrases). Independently from each other students based on written phrases (synergies) write a keyword (keyword phrase), which in their opinion best describes written synergy. Then they return the colour sheet to the middle of the table and take a new one. Students repeat this until they can produce ideas. They have to have enough quiet time to write down as many keywords (keyword phrases) as they can. The ideas are recorded (version of brainwriting pool technique) (10 minutes). • Step 20: Students take their colour sheet back and independently from each other subjectively identify one keyword (keyword phrase) most important for them to solve the problem (and circle keyword (keyword phrase) with another colour). This may be the keyword (keyword phrase) they have written before, one that another student has written or new one. Students write down the selected keyword (keyword phrase) on the post-it note (3 minutes). • Step 21: Working as a group: Students explain and share their keywords (keyword phrases) to other students and attach post-it notes with their keywords (keyword phrases) on the flip chart or whiteboard, in a line (3 minutes). • Step 22: Pause and idea maturing. Each participant is considering about the collected ideas (viewpoints, significant relationships (linkages), synergies and keyword (keyword phrase)) (15 minutes). The rest of the process could be organised as a Meeting 3; when so, a 10 minute long conclusions – teacher summarising brainstorming process and key points till so far is needed before ending (before pause) and 10 minutes long starting "warm-up" in sense of summarising work so far is needed after pause (at the beginning of the Meeting 3). • Step 23: Group analysis 1: Students are governing ideas under the guidance of teacher: Unusual ideas they transform into useful; they combine the ideas and in such a way seek priority ideas. Group discussion allows building on others ideas, which is perhaps most valuable viewpoint of group brainstorming. Teacher is guiding the discussion and takes care that all students participate. Creativity ideas are welcomed and no criticizing is allowed. New ideas are recorded (also on the post-it notes) (10 minutes). • Step 24: Group analysis 2: Students criticize priority ideas in the role of devil's advocate. With extremely sceptical views on the proposals is necessary to promote critical thinking. This is a reversal brainstorming: how an idea fails (10 minutes). • Step 25: Group evaluation: Students evaluate the ideas (that are recorded on the flip chart or on the whiteboard) and to three in their opinion the best allocate points. They distribute points: (3) the most useful idea; (2) the second useful idea; and (1) the third useful idea that still gets points. Each student writes his evaluation on the flip chart or whiteboard. After the evaluation on the flip chart or whiteboard stay 3–5 selected extremely good ideas, which get the highest scores (5 minutes). • Step 26: Group final solution: Students need to combine and improve 3–5 selected

extremely good ideas, which get the highest scores and form a sentence or two representing their final proposal for a solution to the problem, which was solved. As suggested by the slogan "1+1=3" they need to find a synergy among 3–5 selected extremely good ideas. First, they have to find relationships (linkages) between these viewpoints (3–5 selected extremely good ideas, which get the highest scores); next, they have to find a synergy between relationships (linkages) identified. So they find a group solution of the problem (in a sentence or two sentences) on the clip chart or whiteboard. They also select a keyword (keyword phrase) that best describes their group solution. At the end students once more make final check if the theoretical framework supports the solution found (10 minutes).

- Step 27: Conclusion: "When managed well, brainstorming can help you generate radical solutions to problems. It can also encourage people to commit to solutions, because they have provided input and played a role in developing them" (MindTools, 2017). Discussion on the results and summarising the whole process (10 minutes).
- Step 28: Implementation of the survey "Research methodology of the pace of an increase in competences during the implementation of training processes including selected practical teaching methods" (10 minutes).

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Teamwork	1) As Finelli et al. (2011) stated in their research the characteristics of effective student teams have been widely studied, and there is ample research on what makes student teams succeed. Johnson et al. (2007), for example, define five traits of effective student teams, and they note that each one is critical for success. The first trait is positive interdependence: students work together to accomplish a shared learning goal, and each student can achieve his or her learning goal if and only if the other team members achieve theirs. The sense of accomplishment must come from the knowledge that every person on the team succeeded. Second is individual accountability, which suggests that each member should be accountable for his or her learning, and every person must do a fair share of work. This can improve student motivation and improve the overall energy level of the team. The third trait, face-to-face interaction, is crucial for building interpersonal skills, as teams work best when members are physically present to interact with the others on the team. Fourth, team members should learn interpersonal and small-group skills and should use these skills as the team works together. Last, but not least, the team should periodically assess its performance as a team, reflecting on what has been useful or problematic in ensuring effective working relationships and making decisions about what behaviours should continue and which ones should change. The framework of successful teamwork consists of four related components: designing good team assignments, constructing student teams carefully, teaching teamwork skills, and assessing student teams. References: Finelli C. J., Bergom I., Mesa V. (2011). Student teams in the engineering classroom and beyond: setting up students for success. CRLT Occasional Paper No. 29. Johnson, D. W., Johnson, R. T., & Smith, K. A. (2007). The state of cooperative learning in postsecondary and professional settings. Educational Psychology Review, 19(1), 15-29.
	2) Teamwork method is classified as problem-solving method and activating method. Based on the results of analysis of teaching methods and employers' opinions contained in Reports O1, O2 and O3, the teamwork method should be used to develop skills related to creativity, entrepreneurship, communicativeness and teamwork. When teacher uses the teamwork method in classroom, he/she should follow the framework of successful teamwork process: designing good team assignments, constructing student teams carefully, teaching teamwork skills, and assessing student teams. *Design Good Team Assignments* Well-planned team assignments are crucial to using student teams well. Michaelsen et al. (2004) observe that most problems of poor student behavior during teamwork "are the result of bad assignments, not bad groups". As with any class assignment, team assignments should have a clear purpose and function and should align with course goals and grading criteria (e.g., Piontek, 2008; Svinicki & McKeachie, 2011), but they also should require individual accountability as well as positive interdependence (Johnson et al. 2007; Michaelsen et al. 2004). Planning a team activity that fits these characteristics requires the instructor to consider the content of the assignment, the academic expectations for the task, the level of preparation required of the students, the way in which the work will be assessed, and the reasons why a team is needed to accomplish the activity. In order to ensure that activities will be suitable for teamwork and that students will have the tools and time to

	complete the assignment successfully, instructors should consider four components of using student teams successfully also think through practical aspects of having students work in teams (e.g., when teamwork will take place, whether students will have time to report to the class, and how and when feedback will be given to students). The list of suggestions that follows expands on some of the key points for developing good team assignments. *Construct Teams Carefully* Creating student teams that will work well is another critical aspect of using student teams in the classroom. Important considerations in this regard include the number of students per team, the level of diversity on student teams, and whether or not the instructor determines the membership. Teach Teamwork Skills The ability of team members to work effectively together can evolve over time as students acquire important skills. The four stages of forming, storming, norming, and performing are commonly used to describe this evolution. Forming is characterized by orientation to the team and dependence on others, while storming is often marked by conflict and resistance to group influence (Hansen, 2006). This resistance is overcome in the norming stage, during which cohesiveness develops, and new roles are adopted. Finally, in the performing stage the team is focused on the task, and "structure can now become supportive of task performance" (Tuckman, 1965). It is important for students to know that their teams are likely to experience conflict as they work together and for instructors to provide students with ways to deal with those conflicts (e.g., Michaelsen et al., 2004; Millis, 2009; Stein & Hurd, 2000). *Assess Student Teams* The fourth component of successful student teams in the classroom involves assessment, both of overall teamwork and of individual contributions. This section provides guidance on evaluating the success of team interactions and using peer evaluation to assess individual contributions. References: Hansen, R. S. (2006). Benefits and problems with student teams: Suggestions for improving team projects. Journal of Education for Business, 82(1), 11-19. Johnson, D. W., Johnson, R. T., & Smith, K. A. (2007). The state of cooperative learning in postsecondary and professional settings. Educational Psychology Review, 19(1), 15-29. Michaelsen, L. K., Knight, A. B., & Fink, L. D. (Eds.). (2004). Teambased learning: A transformative use of small groups in college teaching. Sterling, VA: Stylus. Millis, B. J. (2009). Becoming an effective teacher using cooperative learning. Peer Review, 11(2), 17-21. Piontek, M. (2008). Best practices for designing and grading exams. CRLT Occasional Paper, No. 24. Ann Arbor, MI: Center for Research on Learning and Teaching, University of Michigan. Stein, R. F., & Hurd, S. (2000). Using student teams in the classroom: A faculty guide. Boston, MA: Anker. Svinicki, M. & McKeachie, W. J. (2011). McKeachie's teaching tips: Strategies, research, and theory for college and university teachers (13th ed.). Belmont, CA: Wadsworth Cengage Learning.
	3)The teamwork method will be used in the course "Management of small and medium-sized enterprises" in a group of first-cycle students at the Faculty of Economics and Business, full-time studies, 6th semester (30 hours of lectures and 30 hours of tutorials). The method will be tested and applied in the frame of 2 meetings. During the 1st meeting, the presentation of the method (25 minutes) and construction of the teams (20 minutes) will be carried out. During the presentation of the method the teacher

	must explain which competence's abilities will be especially developed, when applying the method teamwork. For the competence entrepreneurship, e.g. ability to invoke and accept changes. For the competence creativity, e.g. ability to make use of creative thinking techniques. For the competence teamwork, e.g. ability to build pleasant atmosphere and positive relations and ability to encourage others to achieve a common goal. For the competence communicativeness, e.g. ability to negotiate. During the 2nd meeting the team assignments will be forwarded to the teams in a frame of parallel testing of the case study method (see method no 3). Further, the teaching of teamwork skills will take place in a context of the process of solutions finding and discussion within every team (30 minutes). After discussion within the team, all teams will be faced with the "general" discussion where different teams will introduce their own views concerning the stated problem (45 minutes). The presentation of the results and cognitions will take additional 10 minutes. Further, the assessment and evaluation of teams will be done (10 minutes) as well as the fulfilling of the research questionnaire (app. 2) (10 minutes). To be successfully in use the teamwork method the teacher will follow the framework of successful teamwork process: designing good team assignments, constructing student teams carefully, teaching teamwork skills, and assessing student teams. **Construct Teams Carefully (1st meeting)** *Form teams of three to five members* Smaller teams better facilitate individual accountability and allow for more flexible scheduling when out-of-class activities are required. On the other hand, larger teams have the potential for more resources, ideas, and points of view to be brought to the problem. In general, teams of three to five students work best, with smaller teams recommended for short-term activities or simple tasks and larger teams for long-term, complex activities (Birmingham & McCord, 2004; Johnson et al., 1998c). *Form heterogeneous teams* Heterogeneity is an important characteristic for effective teams. Students on heterogeneous teams bring diverse perspectives and problem-solving approaches, but they may require more time and effort to develop strategies to work efficiently as a team (Birmingham & McCord, 2004). The benefits, though, outweigh these issues for long-term teams, and research finds that "although diverse groups typically have more initial difficulties, after forty hours of working together they are typically more effective than homogeneous groups". What types of diversity are good for teams? First, teams that have a broad range of abilities and problem-solving perspectives among members tend to be more successful than those that are homogeneous in this regard (Brewer & Mendelson, 2003; Heller & Hollabaugh, 1992). Hong and Page (2004) suggest that such functional diversity, or "differences in how people represent problems and how they go about solving them" can be an important attribute of high-performing teams. Other researchers have also demonstrated that working with others of different abilities offers benefits to students at all levels—the more capable students become more aware of their thinking processes, while the less capable student learns from an advanced peer (Oakle et al., 2004; Wankat & Oreovicz, 1993). Teams should be heterogeneous in other respects as well—they should include men and women, as well as majority students and minority students whenever possible (Tonso, 2006). Research suggests that when women or minorities are outnumbered in engineering teams, their team participation can be negatively affected because their opinions may not be considered valid by their teammates, or they may be assigned unimportant tasks (Ingram & Parker, 2002; Michaelsen & Sweet, 2008). Therefore, it is critical that whenever possible, teams be formed in ways that avoid isolating individual women or minorities. This is especially important in introductory courses when students are new to the field and have

not yet established support mechanisms like study groups or academic networks.

Use instructor-assigned teams

Team membership can be selected by students, determined randomly, or assigned by the instructor based upon individual student characteristics. Of these three methods, teams chosen by students tend to be the most homogeneous, while instructor-assigned teams that are balanced in terms of race, gender, ability, and problem-solving approach are more likely to be heterogeneous (Oakley et al., 2004). Instructor-assigned teams also offer control over the ways in which resources are distributed among teams and result in a stronger sense of fairness.

Consider practical issues when creating teams

The length of the team project and expectations for meetings outside class should be considered when forming teams, because even the best heterogeneous team is likely to fail if the team cannot find a common meeting time. Thus, when students need to work together outside class, instructors should consider out-of-class availability when forming the teams. One way to do this is to query the students about their schedules and use this information in conjunction with other criteria in forming teams (Oakley et al., 2004).

Design Good Team Assignments (2nd meeting)

Begin with simple, well-defined tasks, then increase their difficulty

Team assignments early in the term should include relatively simple, well-defined tasks that require a specific product so students can concentrate on the mechanics of teamwork (Michaelson & Sweet, 2008). For example, a good first-time task may require teams to collaboratively complete a table of definitions and reflect on their team interaction during the process, allowing the instructor to award points based on how well the students worked together to accomplish the goal. As the term progresses, the instructor should assign more complex and ambiguous tasks that promote higher level thinking skills. (Of course, regardless of complexity, assignments should always be relevant, solvable within a reasonable time frame, and intrinsically interesting.) For example, instead of having students make a list or choose among a few alternatives, students could be asked to "make multiple comparisons and discriminations, analyse content information, and verify rule application" (Michaelse et al., 2004).

Define individual versus team accountability

A common student complaint about team assignments is that unclear instructions about student roles and division of work allow individuals on a team to contribute unequally without penalty, especially if a single assignment is to be submitted by the team. One strategy to overcome these issues is to require students to rotate through well-specified roles (e.g., scribe/note-taker, time-keeper, clarifier, reporter, and manager) during the term to ensure that each student has the opportunity to take on different responsibilities (Hansen, 2006; Stein & Hurd, 2000). Rotating the leadership role has been shown to result in higher levels of cooperation and performance on student teams (Erez et al., 2002) by helping students understand expectations, encouraging individuals to contribute fairly, and enabling students to experience group work as more rewarding and productive (Hansen, 2006; Page & Donelan, 2003). The number and types of roles will depend on the number of people on the team, the length of time the team will be together, and the complexity of the task. In addition, the assignments should define individual versus team accountability (Cooper, 2009) and provide guidance about expected student contributions to the project. Without careful structure, this simple approach to team assignments may result in students completing the task via a divide-and-conquer method. Each team member should participate equally in preparing the class presentation, and one member of the team will be chosen randomly to make the presentation. The team will be graded on both the written report and the presentation, and individual scores will be adjusted based on the quality of

	the two-page research overview. This second set of instructions clarifies how the work should be distributed among individuals, and it conveys the expectation that the team should work together to create the final cohesive report and presentation. Develop assignments that require interdependence. As Michaelsen and Sweet (2008) write, "the most fundamental aspect of designing team assignments that promote both learning and team development is ensuring that they truly require group interaction". That is, assignments should require teams to make complex decisions together and allow all team members to contribute and participate in the decision making process. This requires complex reasoning and a lot of teamwork, but because it can result in a relatively simple presentation, it can allow the team to focus on interacting and content-related decision making, thus further promoting interdependence. **Teach Teamwork Skills (2nd meeting)** *Have students talk about important team behaviours* Students typically have not received specific guidance on how to be a good team member, and they lack strategies for addressing common team dilemmas. It is the instructor's responsibility to explain to students why teamwork is being used in the class and to help students develop the skills needed to be good team contributors. Johnson, Johnson, and Smith (2007) explain that students not only need to learn practical skills for working in a team, but they also need to learn "civic values," including commitment to the common good and to the well being of other members, a sense of responsibility to contribute one's fair share of the work, respect for the efforts of others and for them as people, behaving with integrity, caring for other members, compassion when other members are in need, and appreciation of diversity. To impart these values and offer resources for resolving some of the challenges of working on a diverse team, instructors might devote a portion of the first class meeting to team building activities (see Kapp, 2009, for a description of successful activities) or develop an initial assignment to help the team work together. For example, having students complete a learning style questionnaire and then reflect on their team's results (e.g., by writing a team essay that describes differences in members' learning styles that could affect collaboration, as well as possible ways of using the differences to their advantage) has been shown to increase students' team skills (Finelli, 2001). Similarly, instructors can create simple scripts depicting common team dilemmas and invite students to role-play the situation or give a class assignment asking teams to reflect on characteristics of successful teams, discuss challenges they have encountered, and list strategies for resolving conflict. After seeing the performance, students reported being better able to resolve common team problems than they could at the beginning of the term, and they placed greater value on diversity, compared to students in a control group who did not see the performance (Finelli & KendallBrown, 2009). One explanation for these benefits may be the interactive segment of the sketch during which students generate a list of strategies for having a successful teamwork experience. The director of the theatre company has compiled the strategies from several performances into the following list of seven suggestions (McKee, 2010): 1. Think about the roles you tend to play within teams, and make a conscious effort to be open-minded about how these roles will play out in teams. For example, if you usually lead, take time to step back and listen. Be aware of how gender, cultural backgrounds, socio-economic status and life experiences could affect your team members' performance. 3. Assume that your team members are doing their best and want the team to succeed. 4. In meetings, communicate clearly, directly, and respectfully. If a team member's behaviour is inhibiting progress, address the issue in a timely, professional manner. 5. Communicate expectations, schedules, and goals for the project at the onset of working together. 6. Be prepared to make sacrifices and be considerate of each other's schedules. Team members may have to rearrange their schedules to get everyone in a meeting, and they may have to hand over part of the project or make changes in plans to accommodate everyone's unique situation. 7. Organize and use time carefully. Set agendas for meetings, be clear about the action items for each team member before leaving each meeting, leave time to work as a team, and make use of each team member's skills and

	interests in order to take advantage of working with a diverse team of students. Instructors might consider sharing the list with students who will be asked to work in teams. *Have teams develop contracts* Another way to foster teamwork skills is to have each team develop a contract, which involves discussing the team's purpose or mission, defining appropriate roles for each team member, and setting norms for conduct. Having – and using – a contract gives students ways to mediate team conflict and negotiate agreements on their own, enhancing team productivity (Johnson et al., 2007). Several faculty require the student teams to develop a team charter (i.e., a shared set of team rules) as one of the first course assignments. The charter is intended to help the team plan for managing cases in which a team member does not do his or her fair share of the work, does not attend team meetings or shows up late, exhibits disrespectful or unprofessional behaviour, is excessively demanding, or is overly reserved. The team drafts a charter that everyone signs (indicating agreement with the principles) and gives a signed copy to the instructor. Then, when conflicts arise, the instructor can remind students about the contract, asking them to work together to define the source of the conflict, communicate feelings and positions, take the other person's perspective, and reach an agreement that is satisfactory to all team members (Smith & Imbrie, 2007). If the team needs it, the instructor can intervene to address unresolved conflicts. *Observe and guide teams* In some cases, teams need a great deal of support while individuals learn to interact with diverse peers. Observing the teams is fundamental to detecting and correcting problematic dynamics in a timely way (Fredrick, 2008). Instructors should periodically check in with the teams, perhaps by scheduling times to meet with each team during office hours or being present when the team works together. During these meetings, the instructor should determine the extent to which the team is on track and observe the team dynamics. As needed, the instructor can ask refocusing questions such as, "Kathy, please summarize what the team has done thus far," or "Tim, please describe the team's plan for completing the task," and reiterate expectations about both individual accountability and interdependent work. When monitoring team interaction, it is important for instructors to be mindful that team dynamics may vary based on the backgrounds of team members. For example, teams composed of students from cultural backgrounds that value the collective perspective display more cooperative behaviour than teams composed of students from individualistic backgrounds (Cox et al., 1991). Moreover, in traditional U.S. culture, women have often been socialized to develop group rapport and to seek interaction, while men have been socialized to seek independence (Ingram & Parker, 2002). Furthermore, gender-typical dynamics often exhibited by women students on teams (e.g., willingness to admit vulnerabilities or conceding one's own weaknesses in order to help a teammate "save face") also have an impact on perceptions of student ability. As such, coaching students to understand the value of collaboration, take ownership of and speak confidently about their ideas, and accept (or even demand) technical roles on projects might help students of varied backgrounds achieve success in an engineering community (Wolfe & Powell, 2008). Other student characteristics can also affect dynamics. Students who are outspoken in class, for instance, may dominate their team, while other students may tend to avoid conflict and simply refrain from participating in the team (Heller & Hollabaugh, 1992). Being mindful of these dynamics, coaching the students through common team dilemmas, and intervening in ways that promote team awareness and encourage change (e.g., praising the class for exceptional behaviours or talking about ways to handle a particular situation) can lead to more successful team interaction. **Assess Student Teams (2nd meeting)**

Encourage and allow time for team processing

It is important to provide time and guidance for teams to examine how they are working together (Cooper, 2009). Because students may not know how to reflect on their teamwork behaviours, instructors should periodically ask individual students questions such as, "What are the things that your team is doing that work well and what things would you like to change?" Such questions allow students to reflect on their own and their peers' contributions to the team and, when shared with others, illustrate the kind of responses that are useful. Instructors should build in time for in-class team processing throughout the term, debrief the class afterwards when appropriate, and discuss issues that arise with the whole class so students are informed of potential problems and given opportunities to brainstorm possible solutions. The short time investment required upfront for this has the potential to save time later in the course by preventing the escalation of conflicts or confusion.

Use peer evaluations

Because students have the most knowledge about individual contributions to the team, peer evaluations are an important method of team assessment (Cestone et al., 2008; Loughry et al., 2007; Williams et al., 2002). A simple peer evaluation form commonly used in engineering is shown in the Appendix. This form allows the instructor to solicit self- and peer-evaluations about team contributions. The Comprehensive Assessment of Team Member Effectiveness (Figure 2) is a free, web-based version of the form that produces automatically generated instructor reports, compiling student ratings and alerting faculty to potential team problems. It was developed through rigorous research and has been shown to be valid and statistically reliable (Ohlan et al., 2005). When effectively facilitated, the benefits of peer evaluation are many. Soliciting students' perspectives of their peers can help an instructor identify "free riders" who fail to contribute to the team and rely on others to get the work done (Glenn, 2009; Slavin, 1995). Students are challenged to think more critically about the process of teamwork (Fredrick, 2008), they reflect on the goals and objectives of a course (Cestone et al., 2008), and they are more motivated to produce high-quality work when their peers evaluate them than when their instructor does (Searby & Ewers, 1997). Research also shows that students who participate in peer evaluation have an increased awareness of the quality of their own work and increased confidence in their abilities (Dochy et al., 1999). Overall, students find peer evaluation to be a fair method of assessment (Gatfield, 1999) and are generally very satisfied with the process (Cestone et al., 2008). Peer evaluation can be useful both to provide feedback to improve team interactions while the teamwork is in progress and to measure individual accountability in students' course grades. To accomplish the first objective, instructors should distribute peer evaluations at multiple points during the term so students can learn how to score their teammates and get used to sharing their (anonymous) ratings with teammates. In addition, at the end of the term, the instructor can factor the students' ratings into the overall grade or adjust each student's team score by a multiplier based on the ratings to reflect their team contributions (Kaufman et al., 2000). Though it is important to make peer ratings count, if the course becomes overly dependent on them, students may start to feel as if they have not received appropriate credit for their individual efforts, and the peer feedback may become counterproductive.

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Case study	1) Case method has been used often not only in management education but as well as in other disciplines (e.g., medicine, law). Wherever decisions are required and issues must be solved, the case method is an effective educational method (Mauffette-Leenders et al.,

	2001). Quality case teaching requires extensive preparation, careful thinking, intellectual intensity and a personal commitment of a teacher (Erskine et al. 1998). Based on the type and complexity of cases several approaches can be distinguished within the case method (Kralj, 1995): Case-Problem-Method, Incident-Method, Live-case, In-Basket-Exercise-Method and Case-Study-Method. The later was adopted by Harvard Business School for management education purposes in the first decades of twentieth century (Mauffette-Leenders et al., 2001) and is presented in the continuation. A case is a description of an actual situation using a real life data and involves a decision, a challenge, an opportunity, a problem or an issue faced by a person or persons in a company. Cases enable students to learn by doing and gives them opportunity to identify, analyse and solve a number of issues in a variety of settings thereby enabling them to take on the roles and responsibilities of specific persons in specific companies. The discussion-based format of the case method enable students to develop self-confidence, ability to think independently and to work in a team. Since managers need to adapt to rapidly and continuously changing environment, the case study method encourage students' creativity and entrepreneurial thinking (Mauffette-Leenders et al., 2001). Therefore, several skills and competences are developed by the case study method (Mauffette-Leenders et al., 2001, 5-6): analytical skills, decision-making skills, application skills, oral and written communication skills, time management skills, interpersonal or social skills and creative skills. At the Faculty of Economics and Business at the University of Maribor (UM FEB), the case study method is used especially at both first- and second-cycle levels of full-time and part-time courses such as Family business management, Enterprise's policy and strategic management, Governance and strategic management, Start-up and developmental management, Development of a dynamic enterprise and management of small and medium-sized enterprises. Analysis of practical teaching methods in formal learning at UM FEB showed that the case study method is one of 15 the most frequently used practical teaching methods (Belak et al. 2016). References: Belak, Je., Duh, M., Štrukelj, T. (2016). Practical teaching methods applied in higher education – Slovenian experiences. In Report O1 (pp. 75–86). Erskine, J. A., Leenders, M. R., Mauffette-Leenders, L. A. (1998). Teaching with Cases. London, Ontario: Ivey Publishing. Kralj, J. (1995). Politika podjetja v tržnem gospodarstvu. Maribor: Ekonomsko-poslovna fakulteta. Mauffette-Leenders, L. A., Erskine, J. A., Leenders, M. R. (2001). Learning with Cases. London, Ontario: Ivey Publishing.
	2) Case study method is classified as problem-solving method and activating method. Based on the results of analysis of teaching methods and employers' opinions contained in Reports O1, O2 and O3, the case study method should be used to develop skills related to creativity, entrepreneurship, communicativeness and teamwork. A teacher can reasonably use the case study method in a class that varies from twenty to sixty students and taking into consideration other prerequisites for case teaching. Among prerequisites, for effective teaching are physical facilities that must be suitable for the use of cases; this includes the layout of the classroom that encourage participation, availability of boards, charts and screens, and participant identification (e.g., name cards). Course planning is of the same importance in classes where cases are used as in non-case courses and consist of (1) setting the learning objectives, (2) the general course design, (3) detailed planning - sequencing of the sessions and materials, and (4) defining the performance evaluation measures. The major steps conducted by a teacher are (Erskine et al., 1998, p. 15): a) preparation for class – assigning a case and often readings for students preparation, and completing the Case Teaching Plan. The Case teaching Plan should include time (i.e.,

	anticipated time in minutes that may be on the various class agenda items), agenda (i.e., agenda items are potential topic areas or activities on which time will be spend during the class), and participants (i.e., who will be expected to talk in class and when; preparation of preference list is important if we want that all students in the class participate). b) in-class teaching – a teacher resolves questions arising out of the designed readings; leads the case discussion by probing, recording and facilitating students comments, supplying data, theory or insight which may enhance the thinking and learning in the class; executes the Case Teaching Plan. c) evaluation after class – evaluates the students' participation; evaluates the Case Teaching Plan; evaluates the case and other materials in light of the original teaching objectives and updates teaching note.
	3) The case study method will be used in the course "Management of small and medium-sized enterprises" in a group of first-cycle students at the Faculty of Economics and Business, full-time studies, 6th semester (30 hours of lectures and 30 hours of tutorials). Two meetings are planned. **Meeting I:** - explanation of the case study method (origins, general rules, application). During the presentation of the method the teacher must explain which competence's abilities will be especially developed, when applying the method case study. For the competence entrepreneurship, e.g. ability to invoke and accept changes. For the competence creativity, e.g. ability to develop new concepts and new relationships with existing ideas and concepts. For the competence teamwork, e.g. ability to become active and engaged in tasks and ability to respect group's norms and principles as well as other people's opinions. For the competence communicativeness, e.g. ability to make public appearances and self-presentations (25 minutes) - lecture on the topic *Particularities of developmental cycle and life cycle of small and medium-sized enterprises* and introduction of the readings and the case entitled *Particularities of development and management of a company* students need to read at home (45 minutes), - since the case discussion at the second meeting will be carried out first as a small group discussion the construction of teams will be done by applying the teamwork method (see method no 2). **Meeting II:** <u>A) In-Class – Pre-Class</u> – a teacher prepares the lecture room (e.g., clearing board, arranging furniture etc.) (5-10 minutes before the class). <u>B) Pre-Case or Warm-up</u> a) Discussion of the readings assigned along with the case (10 minutes) - resolving difficulties with the readings (students ask a teacher), discussion of the main aspects of the readings (a teacher asks students); the aim is to get to know whether students understand the theory. b) Case introduction - a teacher comments briefly on the origins of the case or explains how the case fits in the course sequence (10 minutes). <u>C) The Case Discussion</u> (in total 75 minutes) - the case discussion will be carried out first as small group discussion (30 minutes) and then followed by a large group discussion (45 minutes). Basic phases in a case class discussion (both in small and large groups) should follow more or less the typical decision making model (Erskine et al. 1998; Mauffette-Leenders et al., 2001): defining the issue; analysing the case data with focus on causes and effects as well as constraints and opportunities; generating alternatives; selecting decision criteria; analysing and evaluating alternatives; selecting the preferred alternative; and developing an action and implementation plan. Therefore, the case class discussion is going to follow the next phases:

a) Start – a teacher starts a class discussion with the opening question; this question is a specific question that is a part of the case assignment. Question is: *Which are developmental problems of a company? How can they be solved?*

b) Issue and analysis – identification of the exact nature of the *issue, problem or decision* in the case. It is necessary to agree within the class what is the right issue that is being addressed.

Points c) to e) are done first within small groups and then in the large group.

c) *Analysis* starts with developing a clear understanding of why the issue arose. Further analytical work is both quantitative and qualitative. The framework and theoretical concepts of the course will be used in the analysis of the case. The main goal of analysis is to ensure that alternatives generated are appropriate for the decision or issue under consideration.

d) Alternatives, decision criteria and decision – and important part of the case class discussion is the discussion on *alternatives*. The *list of alternatives* is going to be made before the discussion of appropriateness or advantages/disadvantages will start. Next, the *list of decision criteria* is going to be defined (i.e., the criteria against which to compare all possible alternatives). Decision criteria can be quantitative (e.g., profit, cost, capacity, risk, growth rate etc.) and/or qualitative (e.g., competitive advantage, customer satisfaction, employee morale, corporate image, safety, motivation, ethics etc.). Since usually more criteria are used, the list need to be prioritized (ranking of criteria). Next we have to narrow down alternatives (e.g., we take into consideration only those that have high probability of success) which is followed by serious examination of the two or three the most attractive ones. We record the key alternatives and their pros and cons on the board (on the paper within the small group discussion). This is followed by the class comparison between alternatives (i.e., the alternatives discussion stage). At the end, we need to reach a conclusion on the best alternative(s).

e) Action/Implementation Plan – action plan should answer five basic questions: who, what, when, where, and how? At least actions should be specified that are necessary to produce the advantages (pros) and avoid or minimize the disadvantages (cons) identified earlier.

D) Conclusion – a teacher summarizes the case and key points (10 minutes).

The last stage of the method ends (20 minutes):
- with a questionnaire to measure the pace of an increase in transversal competences (appendix 2 to the instruction) among students taking part in the testing process and
- with a questionnaire whose aim is to evaluate the level of transversal competences after the completion of the tested process (appendix 3 to the instruction, part two).

Summarizing how all three methods contribute to the improvement of all four competences (10 minutes).

The fourth process of developing transversal skills as part of practical training

March, 2017

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SHEET OF A MODEL OF THE FOURTH PROCESS OF DEVELOPING TRANSVERSAL SKILLS AS PART OF PRACTICAL TRAINING

I.	**No. of intellectual work result**	O5	**II.**	**Testing period**	21 February 2017- 03 May 2017
III.	**Partner conducting testing**		Matej Bel University, Slovakia		

1. Process presentation

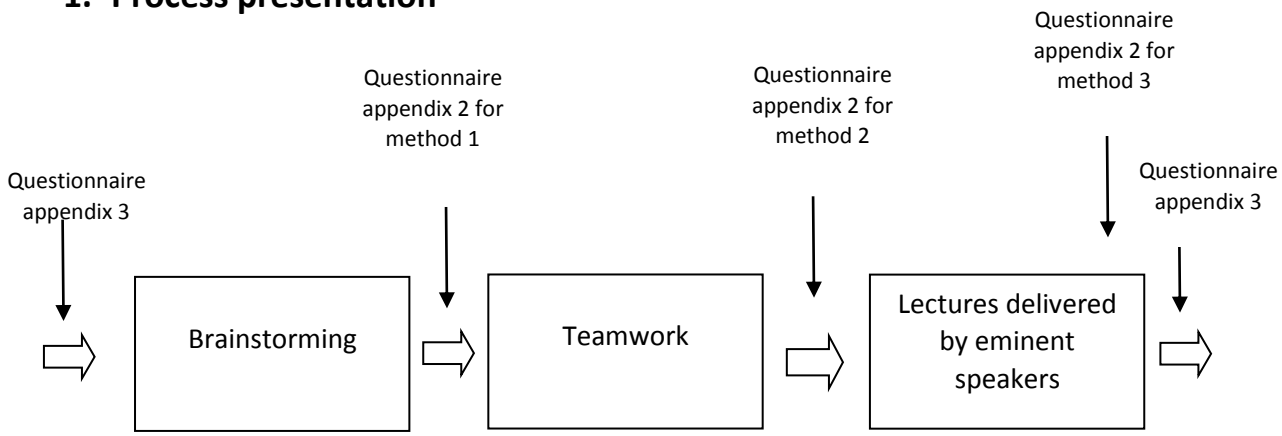


Figure 1. Application of practical teaching methods in process 1 - UMB.

Number of method in the process	Practical teaching method	Quartile	Rank	Entrepre-neurship (E)	Creativity (Cr)	Communi-cativeness (Com)	Team work (T)	Group of methods	Result
1.	Brainstorming	I	3	0,97	1,25	0,96	0,94	Problem-solving methods	4,11
2.	Team work/Group work	I	15	0,65	0,68	1,02	1,26	Problem-solving methods/Activating methods	3,60
3.	Lectures delivered by eminent speakers	III	53	0,92	0,75	0,51	0,42	Other methods	2,60

Description of the subject and testing groups at Matej Bel University

Testing will be realized within the course **Tourism Management and Marketing**. The subject is delivered in the Master study (1st year of study, 4th year of overall study) of Economics and Management of Tourism study programme. The extent of course is 2+2, which means 80 minutes lecture and 80 minutes practical seminar each week. There are 36 students attending the course, they will be divided into 3 testing groups by 12 persons each. The subject is delivered by 2 lecturers – assoc. prof. Vanda Marakova and Radka Marčekova, PhD. By respecting duration of our semester and successful implementation of using practical teaching methods selected for the process of developing transversal skills the process at UMB will start 21st of February by the general lecture with the introduction of the project, description of transversal competences and introduction of the whole procedure of using practical teaching methods for the process of developing transversal skills. The first lecture will be delivered by assoc. prof. Vanda Marakova. After the first lecture, the first questionnaire will be realized.

2. Analysis of the ways of using practical teaching methods selected for the process of developing transversal skills

Methods	Analysis
Brainstorming	1) Brainstorming is classified as a method of solving problems in a creative way - based on collective thinking over a detailed/specific question or problem. Brainstorming is related to heuristic methods (in Greek heurisko – to find) that deal with principles of creative thinking and stimulating people to seek new solutions. The method was popularized and described by A.F. Osborn. Brainstorming aims at generating the highest possible number of creative ideas used to solve a problem or answer a set question. The method is linked with solving quality-related problems, requires ingenuity, intuition, vivid imagination and is devoid of criticism. During the implementation of the method, participants moderated by the leader propose as many non-standard, innovative or even unreal ideas as possible, which cannot be criticised (the group should mutually inspire itself). Source literature provides multiple forms of using creative thinking which are close to brainstorming: Method 635, Nominal group technique, Snowball sampling, Individual "stream of consciousness", Digital brainstorming. In the teaching process, brainstorming is used for solving specific problems and is a method of creativity development. Therefore, it is essential for this method to be included in the group of methods that initiate work with students. Due to its universality, the method is during tutorials, project classes and seminars, where it is necessary to increase the ability to think creatively (the cognitive process needs to be strengthened by various sources of information) as well as during discussing, specifying and presenting a problem. The principal aim of brainstorming is to collectively solve problems through generating ideas. For this reason, the method should be placed in the group of methods initiating education models as part of a quick increase in transversal competences. Taking into account analyses of teaching programmes and employers' opinions contained in Reports O1, O2 and O3,

brainstorming should be primarily used to develop skills related to creativity, entrepreneurship, communicativeness and teamwork. Because the method is more efficient in-group activities than in individual work over a given problem, using the method requires the preparation of problem tasks.

The method most frequently covers three stages:

a) preparation – introduction to the method, acquaintance with the rules of proceeding, selection of participants, ensuring conditions for productive work, informing about the essence of the problem,

b) ideas generating session – essential part (a few/several persons) in accordance with the scenario realized by the moderator (the class tutor or a student prepared to take on the role of a moderator), students furnish ideas which are noted on the board; class participants inspire each other, often suggesting new unconventional solutions. At this stage, students' ideas cannot be criticised, the principle of "quantity creates quality" applies

c) evaluation of solutions/answers, which is based on criteria such as economic, technical and ergonomic. Students analyze in a detailed way advantages and disadvantages of their ideas, learn group cooperation and often defend their ideas quoting logical arguments.

The class tutor should summarize the results of work; assess each group member's commitment to work, taking into consideration assessment made by group leaders/moderators.

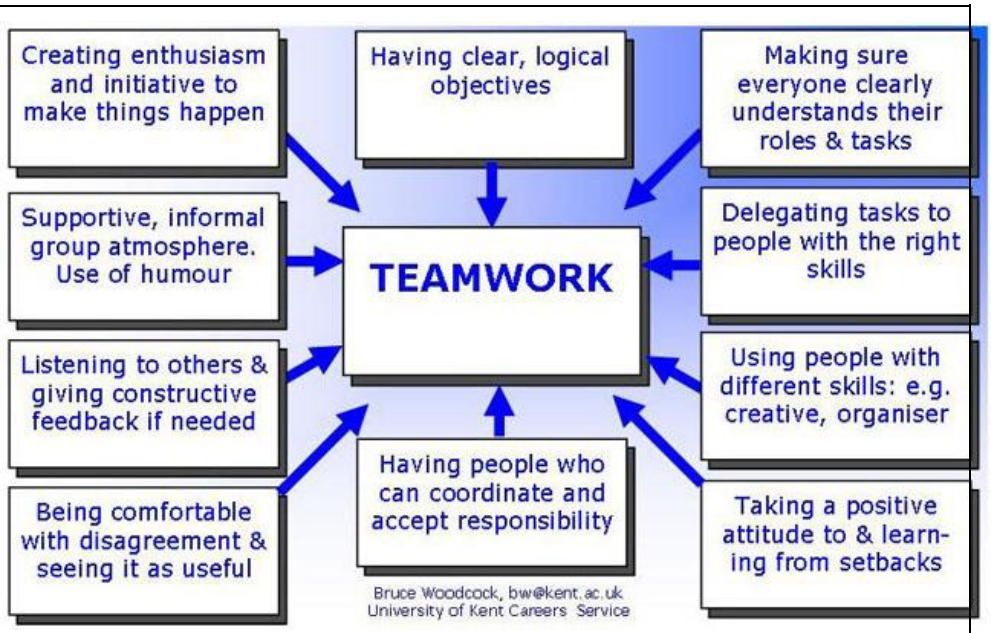
2) At Matej Bel University, brainstorming is not unknown method of practical teaching but usually it is used as a complementary method of teaching. In the process of using practical teaching methods selected for the process of developing transversal skills brainstorming as a practical teaching method will be used as described in the theoretical part of the process with aim to fully exploit its potential. Brainstorming will be realized within 1 lecture and 2 tutorials/seminars, each by 80 minutes as follows:

3) Firstly, the method of brainstorming as a practical teaching will be briefly described within the lecture that is delivered for all students attending the subject by assoc. prof. Vanda Maráková (introduction to the method, 10 minutes).

Within the first seminar/tutorial (80 minutes), at the beginning the lecturer (Radka Marcekova) will briefly repeat description of the method, acquaintance with the rules of proceeding, selection of participants, ensuring conditions for productive work, informing about the essence of the problem. This will be followed by ideas generating session – essential part (a few/several persons) in accordance with the scenario realized by the moderator (the class tutor), students furnish ideas which are noted on the board; class participants inspire each other, often suggesting new unconventional solutions. At this stage, students' ideas cannot be criticised, the principle of "quantity creates quality" applies. All ideas generated during this session will be recorded.

Brainstorming will be aimed at the issue of the enhancement of tourism develoopment in Slovak republic. The particular propositions will be targeted at local, regional, national level and thus to utilize better the potential Slovakia has in the sector of tourism, taking into account the issue of sustainable development.

	This first, *generating ideas session* will be organised as follows: ▪ the presentation of participants and presentation of rules of proceeding during the meeting (10 min); ▪ the moderator writes down the topic/problem that is to be dealt with during the meeting; ▪ participants propose ideas which are recorded on the board. None of the ideas nor any of the participants are evaluated; ▪ The tutor must ensure fair and equal rules of participation (number of utterances, right to speak) for all the participants; ▪ when generating ideas, no detailed analyses of any solutions are made. The only exception is explaining any complex terms and phrases made by a person who proposes a given idea; ▪ The second stage of brainstorming is summarized by encouraging the proposal of ideas which are a compilation of ideas which were previously put forward. The next seminar (80 minutes) will be devoted to evaluation of solutions/answers, which is based on criteria such as economic, technical and ergonomic. Students will analyse in a detailed way advantages and disadvantages of their ideas, learn group cooperation and often defend their ideas quoting logical arguments. Two versions of the stages of evaluation can be adopted: an "expert" method in which it is recommended that evaluation is made by a different team than the team generating ideas or a "defence" method where the participants will be justifying and proving the relevance of their solutions. In the latter attitude, the skill of communicativeness is also trained. The class tutor should summarize the results of work; assess each group member's commitment to work, taking into consideration assessment made by group leaders/moderators. The last stage of the method ends with a questionnaire whose aim is to evaluate an increase in particular competences and with a discussion on the efficiency of the method and its potential application in solving educational, professional and common social problems. Conclusions drawn from this stage should also relate to the necessity for expanding/complementing the educational stage with further teaching methods which have the potential for the development of the remaining useful transversal competences. It should be an introduction to the implementation of further educational stages in the process of developing transversal skills as part of students' practical training.
Team work/ Group work	1) Teamwork is a process of working collaboratively with a group of people in order to achieve a goal. Teamwork is a way for colleagues/collaborators to work well together while trying their best in any circumstance. Teamwork means that people will try to cooperate, using their individual skills and providing constructive feedback, despite any personal conflict between individuals (Business Dictionary 2017).



In Slovakia, it absents the clear and solid methodological framework for developing teamwork in higher education. The rules or recommendations how teamwork should be implemented in teaching methods in the higher education in the Slovak Republic is also missing. Partially, we can identify data about the level of teamwork development at universities in research results of the project Enforcement of university graduates at the labour market (2012) financed by the National agency of Life-long learning education/Erasmus. The research was realised in April – May 2012 among 395 students in various study programs from 10 Slovak universities that were involved in the Erasmus internship. One of the research aims was to identify the level of student's competency in building the interpersonal relationships within the work in team.

From the whole group of respondents, 37 % respondents confirmed that they developed during the study the teamwork at the good level, 31 % respondents evaluated it as its weakness. The high level in this competence was evaluates by students of natural science (47 %), students of economics and agricultural study programs (41 %). The lowest level achieved students of technical study programs (39 %) and humanity and social sciences (33 %). From 100 respondents, students of economics (6 universities), one third of students evaluate its ability to work in team as average, 28 % of the students as very good, 13 % of students as excellent. One quarter of respondents evaluated this competence as very weak or inadequate.

2) At the Faculty of Economics, the method of teamwork is used at first-, second- and third-cycle levels of full-time and part-time courses in several subjects. Although teamwork is in many subjects incorporated within curricula from the aspect of theory as well as from the practice point of view, we do not have any exact measurable knowledge concerning results of teamwork development.

3) Description of the teamwork practical teaching method for developing transversal skills:

During the process of developing transversal skills as part of practical training, we will start with teamwork. Several teaching hours within each subject in all testing groups will be devoted to teamwork. Students will divide into several teams of maximum 4 people and they will work together on specific "project" or tasks.

Teamwork will be involve on two seminars with duration of 80 minutes each. The topic/problem formulation of the teamwork will be an outcome of the method applied previously (brainstorming).The outcomes of the brainstorming will present the inputs

	do discussion in order to achieve a common goal of the collaborative work using the individual strengths. The goal of the teamwork will be specified after the testing of the method above (brainstorming) will be completed. At the beginning, each team will prepare work plan in the form of more detailed plan outlining actions needed to reach one or more goals. Work plan should be processed also in the form of an action plan and will include: 1. Objective/s of team work Goal/s of team work should be SMART, Specific (simple, sensible, significant); Measurable (meaningful, motivating); Achievable (agreed, attainable); Relevant (reasonable, realistic and resourced, results-based); Time bound (time-based, time limited, time/cost limited, timely, time-sensitive). 2. Task/s that needs to be done The main goal and partial goals should be broken down into specific tasks aimed on achieving goals. 3. Time schedule For the efficient work of team it is necessary to create time schedule of all tasks to be able to achieve goals set. 4. Communication plan 5. Composition of team and roles of team members Each team has a possibility to use modern technologies improving their team work (interactive communication tools or platforms, skype call, planning tool etc.). The whole process requires the high level of collaboration within the team, extensive communication and also joint decision-making. At the end of course each team will present whether they were able to achieve goals set and planned activities and critically evaluate the whole process of team work (pros and cons, difficulties, lessons learned). During application of practical teaching method team work/group work in process at Matej Bel University, local entrepreneur will be actively involved. Involvement of representative of local entrepreneur in tourism industry is planned on 22nd of March 2017. Local entrepreneur will take part at the seminar dedicated to implementation of group work/team work in the role of observer and in case of need or interest can act as a mentor in specific tasks related with team work/group work. Local entrepreneur involved will also prepare own feedback related to implementation of practical teaching method. The last stage of the method ends with a questionnaire whose aim is to evaluate an increase in particular competences and with a discussion on the efficiency of the method and its potential application in solving educational, professional and common social problems. Conclusions drawn from this stage should also relate to the necessity for expanding/complementing the educational stage with further teaching methods which have the potential for the development of the remaining useful transversal competences. It should be an introduction to the implementation of further educational stages in the process of developing transversal skills as part of students' practical training.
Lectures delivered by eminent speakers	1) The last method of practical teaching used in the practical teaching method for developing transversal skills is lecture delivered by eminent speakers, very similar to keynote speech. Lectures delivered by speakers representing the world of science, politics and business

	– open lectures given by leading figures in the world of science, executives of companies (in particular global corporations) and banks as well as politicians working in the government or involved in the EU central structure. The subjects covered during lectures include the presentation of the latest trends and solutions in various governmental and modern business spheres. Lectures focus on current operational, tactical and strategic problems faced by companies and governmental units. Lectures are coupled with discussion panels related to the topic specified in a given lecture's title (http://zim.pcz.pl/menu-440,obszary-i-zasady-wspolpracy-z-firmami). This kind of speech or lecture is a motivational one. Of course, all presentations require the speaker to focus on the audience, but a successful eminent speaker lecture requires an even bigger emphasis. In order to motivate change - the speaker must first genuinely connect with the attendees. Without a solid connection, it is impossible to inspire attendees to take action. Lecture delivered by eminent speaker should inspire students to achieve their goals or even dreams based on an inspirational experience or life story of eminent speaker. The true successful stories and own experience delivered straight from its holders have much better impact than theoretical knowledge. 2) This method is used at the Faculty of Economics, Matej Bel University in the form of: ▪ Presentation of entrepreneurs/representative of public administration/practitioner as a positive motivation for students. Positive and inspiring stories and positive personality models attract and motivate for future carrier. ▪ Discussions with entrepreneurs/representative of public administration/practitioner as a part of positive motivation and stimulation to future activity (the acquisition of knowledge, open communication). The main purpose is to deliver the particular topic or issue by different approach – by eyes and mouth of people from practice via their personal experience, presenting their own inspiring stories or the practical point of view on the particular problem, issue or topic. 3) The lecture of eminent speaker will take 80 minutes. The topic is the application of the knowledge acquired on the selected tourist destination in Central Slovakia. The specific focus will be on the aspects of management and marketing of tourism destination. The lecture will be conduct by recognized manager of tourist destination. The last stage of the method ends with a questionnaire whose aim is to evaluate an increase in particular competences and with a discussion on the efficiency of the method and its potential application in solving educational, professional and common social problems. Conclusions drawn from this stage should also relate to the necessity for expanding/complementing the educational stage with further teaching methods which have the potential for the development of the remaining useful transversal competences. It should be an introduction to the implementation of further educational stages in the process of developing transversal skills as part of students' practical training.

The fifth process of developing transversal skills as part of practical training

March, 2017

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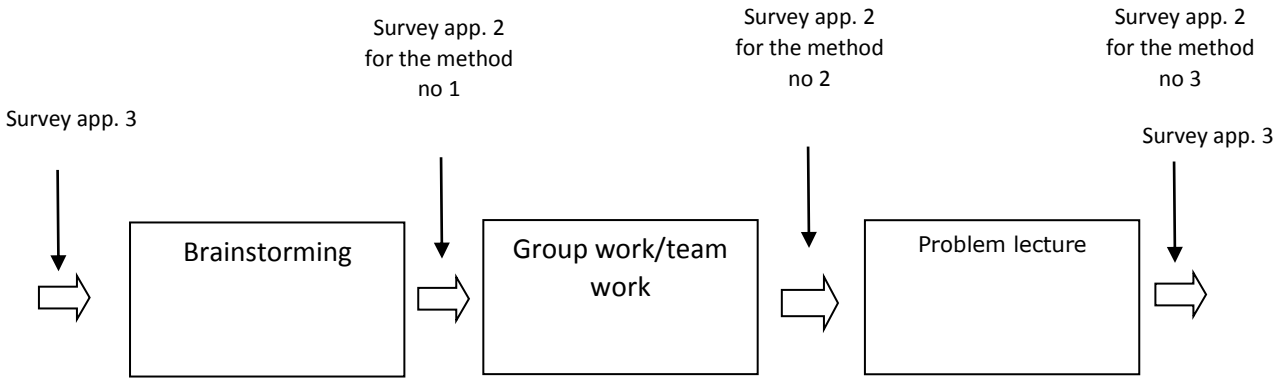
SHEET OF A MODEL OF THE FIFTH PROCESS OF DEVELOPING TRANSVERSAL SKILLS AS PART OF PRACTICAL TRAINING

I.	**No. of intellectual work result**	O5	**II.**	**Testing period**	01 April 2017-31 October2017
III.	**Partner conducting testing**		Czestochowa University of Technology		

1. Process presentation



Picture 1. Application of the practical training methods in the 1 CUT process.

No the method in the process	Name of practical teaching method	Quartile	Rank of the method in matrix	Entre-prene-urship	Creativity	Commu-nicati-veness	Team-work	Group of methods	Impact of the method on 4 trans-versal compe-tences
1.	Brainstorming	I	3	0,97	1,25	0,96	0,94	Problem-solving methods	4,11
2.	Group work/team work	I	15	0,65	0,68	1,02	1,26	Problem-solving methods/ Activating methods	3,60
3.	Problem lecture	III	52	0,70	0,75	0,58	0,59	Problem-solving methods	2,62

2. Analysis of the ways of using practical teaching methods selected for the process of developing transversal skills

Methods	Analysis
Brainstorming	1) Brainstorming is one of the heuristic methods. These are methods of creative problem solving. The goal of brainstorming is to improve group decisions, frequently used as a form of a didactic discussion or one of the teaching methods. It is included into activating methods in the sub-group of problem methods. It engages all the participants, providing each of them with an opportunity to express themselves freely. This method consist in the possibility of quick accumulation of numerous, differentiated solutions to the assigned problem in a short time. This method stimulates creative thinking of the participants. Particularly important here is moving away from patterns and using experience coming from different domains, even if they do not seem related to the problem domain at first sight. Brainstorming can be easily applied and preparing it does not take much time. The moderator prepares a problem to be solved (e.g. in the form of a question). This has to be an open problem, that is the one that can be solved in numerous ways. The moderator should make sure that participants have understood the problem. There are numerous modifications to the original brainstorming, for example the Philips 66 technique, 635 technique, where the participants are divided into smaller groups or even work individually in the initial stage. Then, the results of their work are compared. Success of this method depends on the activeness of the whole group. Brainstorming includes the three stages: I. Preparation/Introduction II. Session of ideas/Collecting ideas III. Analyzing and evaluating ideas In the didactic process brainstorming apart being applied to solve various problems can also constitute a method of developing creativity, communicativeness and cooperation within the group. Therefore, it is important to use this method while working with students. It can be applied for various classes, lectures, laboratories and project work, as application of this method fosters the ability of creative thinking and behaviour. At the Czestochowa University of Technology this method is used during classes at the 1st and 2nd level of full-time studies and extramural studies, in various courses. Sample subjects that make use of this method include, among others: Management, Methods of Organization and Management, Sciences of Organization, Marketing, Organizational Behaviours, Basics of Management, Human Resources Management. This method is very popular and frequently applied by lecturers. As the results of the Report 01 show brainstorming is used in formal, informal and non-formal teaching. The results of the study shows that within formal teaching in subject classes the method is applied in 4,76% , laboratory classes 4,34% and project classes 14,7%. In informal teaching the use of brainstorming has been indicated by scientific associations and student organizations. In non-formal teaching this method is used during courses and trainings. Selecting this method is justified as it develops the ability of critical and creative thinking and application of problem methods in formal practical teaching enhances the cognitive processes through analyzing, explaining, evaluating, comparing and reasoning.
	2) The main goal of brainstorming is creative group problem solving thanks to generating various ideas. Thanks to this the method can be included into the group of methods that stimulate quick growth of transversal competencies. According to the conducted studies in the scope of the analysis of curriculums carried out at universities, and also considering the opinions of employers (Report O1, O2, O3)

it can be stated that this method can be used primarily to shape skills within the four competences such as: creativity, entrepreneurship, communicativeness and group cooperation.

The session participants include:

1. The moderator who runs the session and makes ongoing records of the session (there can be two moderators as well)
2. Stakeholders: the student group divided into three test groups

Information indispensible to run the brainstorming session includes:

- List of session participants
- Guidelines to perform the task.
- Rules of conducting the brainstorming.
- Detailed description of the problem.
- Ways of introducing the ideas.
- Evaluation system and rules of submitting marks.
- Interpretation and evaluation rules.

Logistics support for the session:

- A4 paper sheets for each of the participants,
- Marker pens or pens for each of the participants,
- Board or a possibility to use walls to stick sheets with ideas on them

The moderator conducting the session controls that the determined rules are adhered to.
The course of the brainstorming session and reducing the set of ideas:

- After the introduction made by the moderator the students indicate the largest possible number of ideas applying the determined rules and principles.
- Break – after the students run out of ideas.
- Session participants analyze the distinguished ideas. They analyze their advantages, disadvantages and the possibility of practical application. If the same idea (defined differently) appears on two sheets, they have to be joined on the board.
- Browsing the set of indicated ideas in the order indicated by the moderator and presenting on the board the actions written on the sheets of paper, the lecturer asks the group which ideas should be rejected as they are redundant, improbable, unrealistic or impossible to implement. Rejection takes place in the course of the common discussion, only if all the participant agree to this.
- Evaluation and selecting the optimum solution.

The second variant in the scope of optimum solution selection:

- Each session participant (apart from the moderators) are granted five votes at their disposal.
- Each session participant has to implicitly and freely divide all votes among the ideas.
- The moderator collects the results of the voting, counts them and segregates them according to the number of votes the ideas were given, creating an

	ordered set of ideas. • Optimum solution is being made.
	3) The method will be applied within the subject "Methods of Organization and Management" in the group of 1st degree students of full-time studies at the Management Faculty in the 4th semester. The subject is carried out within 30 hours of lectures and 15 hours of laboratory classes. The task is planned to be carried out within 3 academic hours, each of them 45 minutes long (a one week break between meetings is advisable). Additionally, 30 minutes is foreseen for presenting information in the scope of carrying out the project. Introduction into the subject matter of project implementation will consist in indicating the importance of actions connected with the process of developing transversal competences within practical teaching. Students will be acquainted with the description of competences and skills connected with creativity, entrepreneurship, communicativeness and teamwork. Students will learn what transversal competences are and how important it is to combine the need of teaching skills at a higher level with the needs of employers in the labour market. Research tools used in the project will be discussed in the further part. Due to the necessity to evaluate the level of competences before and after the tested process has been carried out, with the use of selected practical teaching methods, the whole process of developing transversal competences will be discussed and the methods applied in it will be indicated. This will make students aware of the importance of the performed actions, the necessity to adjust the teaching process to the needs coming from the labour market, and also the possibility of disseminating the elaborated model. Session duration: 1. Introduction – selecting a proper number of students, discussing the principles of the session by the moderator, discussing the problem - up to 45 minutes. 2. Generating ideas (according to the given topic) - until student run out of ides, in practice no longer than 45 minutes. 3. Another meeting during which the moderator consolidates the lists generated during the session of ideas, dividing them into categories - up to 15 minutes. 4. Reducing ideas and assigning them priorities - about 30 minutes. The course of brainstorming: **I. Preparation/Introduction** The first step is the selection of the proper number of participants, choosing the moderator/leader and the person to record the ideas. The task of the leader is to organize and run the session. The moderator prepares the participants to understand the problem that they are supposed to solve (through e.g. lecture, talk, working with text). Time and place of the session have to be specified. The moderator communicated the group rules of work, indicates the necessary materials, explains the doubts that the participants may have with relation to the rules and problem which is the subject of the meeting. The task of the moderator is also to acquaint the students with the rules of brainstorming. The following rules should be stressed: • each participant can propose any number of ideas, • all ideas are recorded, they should be written on the board of paper sheets,

- quantity not the quality of ideas is important, as the growth in their number is accompanied by the possibility of finding the best one,
- ideas cannot be evaluated by anyone, criticized and commented on, therefore what is often emphasized is unconstrained imagination, thanks to which the proposed ideas are extravagant, original and innovative, they will be subject to criticism in the next period, during the evaluating session,
- advantages and disadvantages of ideas cannot be indicated in the session of identifying the ideas,
- it is allowed to make use of the ideas proposed earlier, change or develop them, improve other ideas in order t arrive at new, better solutions,
- names of the authors of ideas are not recorded,
- ideas can be boldest and most ridiculous, all ideas are equally important,
- the right to speak is granted by the session leader, side talks are not allowed,
- attention should be paid that none of the participants dominates the discussion, and that everyone has an occasion to speak,
- tendencies of the participants to change the topic to not concerning the discussion should be eliminated,
- cases of leaving the session by the participants in the course of its duration should be limited to an absolute minimum,
- persons evaluating the ideas should be open to new ideas.

Next the teacher writes on the board the problem that is going to be the subject of brainstorming.
The proposed topics and problem situations:

- organizing an integration event for the employees and their families - things that have to be proposed include: place, time and attractions of such an event;
- organizing a conference for students - things that have to be proposed include: form, topic and place of conference;
- a transportation company which offers transport services records a decrease in the number of clients. The Management Board has decided to take all necessary steps in order to improve the quality of services in the company which transports people all over Europe. You are asked to propose novelties/innovations which would improve the quality of time spent while travelling on company's coaches.

II. Ingenuity session/Collecting ideas

Students are encouraged to freely submit the ideas to solve the presented problem. They submit ideas, which the moderator or the appointed person records on the board. The will to submit an idea is signalled with rising a hand. The right to speak is granted by the moderator according to the order of the signals. Each time only one idea can be submitted, which is meant to prevent the situation when only more ingenious students speak, at the expense of the others. In case when the process of submitting the ideas comes to a standstill the moderator can ask guiding questions (using a special list of guiding questions), encouraging the participants to submit combinations of previously submitted ideas or to develop them. The moderator can all the time ask questions that activate the students. At the end of the session the moderator encourages the participants to submit final ideas. The session last 30-45 minutes. Its end is determined by a significant decrease in the number of submitted ideas or the moderator's decision that the collected material is comprehensive an

	allows to solve the problem. **III. Analysis and evaluating the ideas** Evaluation of the ideas takes place after all the proposals are submitted. The participants should group similar ideas into the relevant categories. Then, each solution is being discussed and evaluated. The participants together with the moderator select most accurate solutions to the problem and justify their opinion. The best solution can be put into practice and assessed with regard to its effectiveness. Brainstorming can be conducted in one team, which in the initial stage submits the ideas and in the final stage evaluates them, or two teams: the ingenuity team and the evaluation team. The final stage will include a survey which will evaluate particular competences growth and a discussion on this method efficiency and the possibility of its application to solve educational, professional and social problems. Conclusions will be presented, which result from this method application in the scope of transversal competences growth as well as the possibility of other teaching methods application.
Group work/team work	1) Different methods of work are applied in the teaching process, appropriate didactic resources are selected as well as an appropriate form of students work. One of the problem methods activating students to act is group work. It develops transversal competences concerning entrepreneurship, creativity, cooperation within the group and communicativeness. Group work can be defined as systematized, purposely oriented problem solving process, preparing and agreeing on the position (making decisions, based on dialogue or discussion and carried out according to heuristic principles). The goal of group work is to identify the differences of individual students and also shaping their knowledge, general abilities (among others, the ability to cooperate in a group, ability to communicate, critical thinking ability), attitudes as well as learning one from another and combining the abilities of particular students while carrying out a particular task. 2) A group is a set of individuals subordinate to common goals and able to cooperate together. The group is not just a sum of particular individuals - the group offers grater possibilities and creates a totally new quality. Particular individuals in the group change their behaviour and act differently than they would being alone. Selection of the group depends on the type of task that is to be performed, but best results are achieved by small groups (4,5 persons), of mixed sexes. Group work is characterized primarily by cooperation of task performers - cooperation, helping one another, advice, fulfilling various functions and also joint responsibility for the results of the work. It consists in suggesting ideas by particular group members, developing them and then implementing them while carrying out the assigned task. An important advantage of group work is an increase of knowledge and experiences within the group. This form of activeness provides activating stimuli and facilitates socialization of the group participants. Group work can take two forms: • homogenous group work consists in performing the same tasks at the same time by all the groups and then comparing the results of their work;

	• heterogeneous group work consists in performing by groups different tasks at the same time, which constitute a certain whole, and then presenting the obtained results to everybody. The role of the teacher should refer to making the work of the group effective. A significant stress while applying this method should be put on multidimensional communication within the group. Members of the group communicate with the teacher, and also with other members of the group, which makes it easier to agree on the position or deepens the relationships within the group. At the Management Faculty of the Czestochowa University of Technology this method is applied in classes both at the 1st and 2nd level of full-time and extramural courses of different fields of studies. Sample subjects carried out with the use of this method include: Management, Methods of Organization and Management, Sciences of Organization, Marketing, Organizational Behaviours, Basics of Management, Human Resources Management.
	3) Application of activating teaching methods requires the teacher to possess ingenuity, increased interest in the teaching process as well as additional preparation to classes. Their application in the teaching process results in enhancing competences in the scope of communicativeness, creativity, entrepreneurship and strengthening the relationships in the course of group work. These methods also develop abilities of students in the scope of independent problem solving and applying the acquired knowledge in practice. The goal of running classes with the use of the group work method is to develop the ability to cooperate, make decisions, encourage the students to be creative while solving problems, satisfy the needs connected with cognitive activeness as well as social and emotional ones and integrate the group and activate its members to creative and entrepreneur activity. 4) Working within a group requires division of tasks and responsibilities. Each of the members receives from the teacher tasks to perform, being responsible for them. Groups perform work fast, more efficiently thanks to the support provide by other members of the group. Group work is an opportunity to widen ones competences and knowledge, using the experiences and skills of the other group members. Group work can be effective for tasks were greater creativity is required, as activities used within its confines, e.g. brainstorming, allow to arrive at better solutions, verify ideas, reject the poor ones or unrealistic, leaving only the best ones. In the course of group work attention has to be paid to the fact whether it does not contain individualists who do not like cooperation, who do not like sharing their ideas and experience with the other group members. In such a case the teacher can assign them more independent responsibilities, which do not require close cooperation with other persons in the group. Before the work is started, the group leader should be appointed, considering this person's strong personality and competences. This should not rather be done in the way of democratic election. Also the rules and principles of working in the group should be determined. Efficiency is another important issue. Characteristic features of efficient groups: • Free, unconstrained by any means atmosphere, commitment of the group members.

	• Lively discussion among all the group members, without departing from the subject. • All the members understand the task they are supposed to perform and cooperate one with another. • Group members listen to one another and each idea is listened to and analyzed, they negotiate and make common decisions. • Speaking honestly their opinions with reference to the performed task. • Differences in opinions can occur and as a consequence the group can change the way of acting. • Mutual help in the course of operations, complementing one another. • The role of the leader is taken by different persons. • The awareness of performing tasks correctly, defining progress and barriers. • Following the accepted rules. Important aspects of group work include partner interpersonal relationships, equal rights to participate in the work of the group, considering various beliefs ad ideas and arriving at the accepted by all the members, realistic solution. It requires that the equality of rights while submitting the ideas is maintained and assumes mutual responsibility for decisions that have been made. Rules of group work: • The most important aspect of group work is communication and respect for other group members, their work and also time that has been assigned to perform the task. Work on the task should start and finish at specified hours. • Each member of the group has to know the scope of assigned responsibilities. • Each student should be assigned a role to perform (e.g. leader/organizer, reporter, secretary/recording clerk, summarizing person, time supervisor, person to contact the lecturer or other groups, etc.) • Each member of the team should actively participate in performing the task and also do their best to perform it correctly, an if required ask for help and help the others. • It is important to appreciate the skills of other persons and listen to them carefully. Constructive and polite criticism is important, it is not allowed to mock other persons' ideas or insult the way of work or thinking of other team members. • Apart from efficient communication another important issues are commitment and motivation to work and define precisely the scope of responsibilities of particular persons and the deadlines for performing the tasks. The application of group work will facilitate the growth of transversal competences mainly connected with cooperation within the group, creativity and communicativeness of the students.
	3) The method will be applied within the subject "Organization and management methods" in the group of students at the 1st level of full-time studies, at the Management Faculty, sem. 4, (subject is carried out within 30 hours of lectures and 15

hours of classes).

Stages of group work in the classes:

I Introduction - the teacher divides the students into groups, formulates goals of work, indicates the ways of achieving them. He does not limit the ingenuity of the students, instead tries to guide them to search for individual ways of achieving the set goals. The teacher assigns particular tasks.

II Action - students supported by the teacher work in groups according to the assigned task following the accepted plan and division of work and responsibilities.

III Summary - this should concern acquired information and efficiency and presenting the results of group work. Remarks can be written on result sheets and then discussed with the students with reference to what new experiences they have gained and what results of work they have obtained, and so on.

IV Group evaluation - students present and discuss the results of their work and also evaluate the completed tasks. They evaluate the quality of work, verify whether they completed the task successfully and whether they achieved goals set by the teacher. Students evaluate which stages of work have been completed in a better way than it was assumed and which require improvement. They discuss the reasons of success or failure.

V Individual evaluation - each of the students individually evaluates their participation in the group work, their weaknesses and strengths and the level of mastering skills and competences necessary to complete the task, with particular stress on transversal competences.

All newly acquired experiences and conclusions can be used to perform a similar task in the future. While analyzing particular stages of the performed task one can validate the usefulness of introduced changes, which will allow to conduct further evaluations. In this way teaching can acquire cyclical nature.

While applying activating methods in the form of group work the teacher should:

- determine the goal of classes in the way which is clear for the students,
- determine the task/problem to solve, and then make sure that all the students understood provided information,
- provide necessary materials for classes,
- use different methods to activate students, strengthen the responsibility and self-discipline, take care of proper pace of work,
- when the classes are finished summarize and evaluate them, ƒ

Meeting: duration: 2 x 45 minutes, additional 30 minutes is the time for preparing and finishing the task:

- the teacher divides the students into groups,
- presents the task to students, indicates its goal, way of performing it and summary and evaluation of obtained results.
- presents the instruction how to work and rules of working in the group,
- determines, that expects students to discuss, communicate, search for creative and ingenious solutions, improve the solutions, exchange experiences, entrepreneurship, solve problems that occur in the course of the task, cooperation within the team,

- distributes materials necessary to perform the task,
- determines the time of carrying out the task,
- within the accepted roles and closely related to them competences students undertake to perform the task together,
- the teacher observes the students and shares with them the results of the observations,
- discussing the performed task and evaluation of student work,
- the teacher summarizes the work of all groups.

Proposed tasks for students carried out within group work:

Teams of 5 students each must build the highest possible, stand-alone construction. Time foreseen for work after discussing the rules and handing out materials is 18 minutes. A foam has to be placed at the top of the tower. Minimum height which is enough for completing the task successfully is 50 cm. The team with the highest construction wins in the task.

Necessary materials:

- 20 pieces of uncooked spaghetti,
- 1 metre of masking tape,
- 1 metre of thread,
- 1 foam Marshmallow.

The following elements should influence the evaluation: correct cooperation, pace of team work, way of presenting and discussing the result in front of the whole group. While conducting the summary advantages of group work should be kept in mind.

This task is carried out with the use of the extremely cognitively activating method, which has a strong impact on the imagination of the group members and influences the growth of transversal competences through experience. In the course of the task the students acquire the skill of cooperating within the group, they like other group members and trust them, know that when necessary they will receive due support. They participate in common activities and are satisfied with fulfilled roles, having the feeling of being a part of the group.

The advantages of applying group work include a better diagnosis of the problem situation, arriving at and agreeing on the acceptable and best solution and also acquiring new or extending the existing competences by the group members, in this transversal competences.

Group work motivates the team members to act, as their individual participation increases the work efficiency of the whole group. It teaches cooperation, respecting the accepted principles and discipline and allows to feel shared responsibility. It also enables to improve communicative competences through expressing one's opinion, listening to other students, exchanging experiences in the course of common work. It also facilitates activation and has an inspiring effect on the other team members.

A very frequently occurring in the course of group problem solving element is confrontation of various opinions, as a result of which cognitive activeness of students is promoted, which as a consequence leads to new ways of thinking, in this arguing,

	explaining, formulating thoughts and acting. Positive results of group work is also developing the feeling of unity and cooperation with the team, which inhibits the development of individual competition. Thus, group work teaches the skill of communicating and cooperating, it allows to develop skills and competences, teaches to follow the accepted rules, helps to become responsible for one's decisions, provides an opportunity to learn from the others, increases the commitment and motivation for work and also encourages to an open discussion and undertake new tasks.
Problem lecture	1) Practical methods refer not only to practical activities connected with practical job teaching, but also theoretical vocational and comprehensive subjects, which include contents of practical nature. Lecture belongs to the group of presentation methods, that is methods of assimilating knowledge based primarily on cognitive activeness of reproductive nature. Lecture is one of the most frequently used and one of the simplest (both for the listeners and the teacher) teaching methods applied in higher education in which the person passing the knowledge conducts an extensive speech on a given topic. Students can independently and voluntarily take notes in the course of the lecture. It consists in direct or indirect conveying messages to the target audience in the form of ready knowledge taking into consideration terminology characteristic of the given science. It requires the listeners to memorize a large amount of information, as well as possessing significant mental maturity and understanding the cause and result dependencies. Apart from the substantive competence the lecturer should know how to relate the content of the lecture with real life and selects accurate and interesting examples. Students are usually just passive receivers. They do not even have to possess any previous experience in the scope of the issues discussed in the lecture. Problem lecture is a word-based method. It belongs to the group of problem methods, that is methods of independent acquisition of knowledge, based on creative cognitive activeness, which consists in solving problems. In contrast to the conventional lecture, where the content is presented by the lecturer in the form which is ready to memorize, the problem lecture reflects a scientific or practical problem. This method is often applied in formal teaching, but also in informal one (used by scientific associations, student organizations, as well as during conferences, symposiums or lectures of representatives of the world of science, politics and business) and non-formal one)courses, trainings). This method applied in the course of practical teaching allows for acquisition of extensive knowledge and its later use in professional practice. Practical methods are used to comprehensively develop skills and competences of effective functioning in real conditions of business activity. According to the elaborated within the project report differentiated shares of the practical teaching methods group in formal teaching has to be indicated. The percentage index of the distinguished method of practical teaching share (problem lecture) in formal teaching in subject classes amounts 30,95% with reference to all summarized types of classes. Problem lecture is applied in almost all subjects taught at the Czestochowa University

	of Technology.
	2) In the contemporary didactic system the selection of teaching methods depends on, among others: goals, didactic contents and tasks. Selection criteria of teaching methods are of guidelines, indicating main tendencies. However, limiting ourselves to one type of methods will not ensure good results of didactic work. Thus, another selected method is the problem lecture. Problem lecture is a good teaching method if there is a need to acquaint students with a particular domain, but also to present more detailed issues being a continuation of a previous lecture. Problem lecture is also successful in transferring knowledge in the form of a series of definitions, standards, regulations, formulas and procedures. However, this is not a satisfactory method to memorize well and understand issues being taught. It should be remembered that in order to consolidate knowledge in a given scope other methods will be more effective, as they require active participation of students in the classes rather than just passive acquisition of the transferred knowledge. The way in which a given subject is taught is most frequently a series of lectures in a given semester, which are thematically related and presenting discussed issues from different perspectives. In case of problem lecture the discussed issues may concern various grasps of the set problem, its history and ways of solving it and also detailed and full explanation of the given problem domain. It is applied when contents of the lecture are concentrated around certain problems. It is foreseen that problem lecture will be used mainly to develop skills connected with creativity and entrepreneurship.
	3) The method will be applied within the subject "Organization and management methods" in the group of students at the 1st level of full-time studies, at the Management Faculty, sem. 4, (subject is carried out within 30 hours of lectures and 15 hours of classes). Presented by the lecturer orally teaching contents should be systemetized, presented in the form which is accessible for the students, being a logically coherent statement. In the course of problem lecture the teacher indicates a particular problem and also directions and ways of solving it as well as the consequences resulting from this solution. Problem lecture is characterized by maintaining a broader contact between the lecturer and students, which is reflected in careful, active following the lecture's reasoning and thinking concurrently with the teacher. The lecturer during the lecture expresses their thoughts, allowing students to participate in gathering incentives, follow his course of thinking: from understanding the nature of the problem to the moment of solving it. While giving the lecture, the lecturer can also use visual aids, e.g. use a multimedia presentation, overhead projector, audiovisual materials or draw something on the board.

	The last stage of the method is completed with students filling in the survey to evaluate the level of student transversal competences within the confines of practical teaching (attachment 3 to the instruction) and the questionnaire to measure the dynamism of changes in the evaluation of acquired transversal competences (level of changes) (attachment 2 to the instructions). The survey participants will be all students participating in the tested practical teaching processes. The final element will be a summary of all remarks, opinions and assessments indicated in the course of discussions during classes on the efficiency of the applied methods: brainstorming, group work and problem lecture. Possibilities of applying them to solve social, educational and professional problems will be indicated. The part of the testing process will be employers who cooperate with the Czestochowa University of Technology on daily basis in the scope of adjusting the teaching effects, skills and competences acquired by the students in the given field in the context of needs which occur on the regional labour market. These employers will participate and observe students in the course of carrying out the tasks in the testing process.