

# CASE STUDY: AN EFFECTIVE TECHNOLOGY OF MODERN ENTREPRENEURSHIP EDUCATION

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## ABSTRACT

*Modern entrepreneurship education does not fully meet the labor market requirements to young professionals. The purpose of the research is to give credibility to the pedagogical conditions for the case study method application in entrepreneurship education, as well as to verify their effectiveness. The research presents the developed model of the effectiveness of case studies in entrepreneurship education. Faculty survey and the results of the first stage of student research demonstrated students' interest in case studies and positive motivation for working with them. However, case study skills appeared to be low. The article makes an experimental assessment of the pedagogical conditions for the effectiveness of case studies. It was established that an integrated approach is required for the effective use of the method. It is necessary to prepare faculty for both case development and discussion moderation; to determine the place of the discipline in the overall structure of entrepreneurial competencies in order to develop cases in the relevant disciplines taking into account professional motives, interests, needs and goals of students; to motivate students to work with cases. The pedagogical conditions are implemented by using previously developed cases when teaching business disciplines. When implementing the pedagogical conditions for the effectiveness of the method, the teaching of business disciplines is improved, all process participants become equal partners, the professor acts as a moderator and students work individually.*

**Keywords:** Case Study, Cases, Entrepreneurship Education, Effectiveness Model, Pedagogical Conditions.

## INTRODUCTION

The gap between modern entrepreneurship education and labor market requirements necessitates improved teaching methods. A specialist requested by the labor market must be competent, able to independently think, make responsible decisions and creatively act in various activity fields. Modern entrepreneurship education comes across social and specific problems (Fomina et al., 2019; Perminov et al., 2019). The discussion on the possibility of developing entrepreneurial competencies is relevant due to the increased volume of scientific information and the forms and methods of education that do not meet modern requirements (Haase & Lautenschläger, 2011; Åstebro et al., 2012; Belitski & Heron, 2017).

A significant number of innovative teaching methods have been developed in modern pedagogical science. However, there is no perfect teaching methodology to increase the effectiveness of entrepreneurial activity.

Summarizing the world experience in entrepreneurship education, the following approaches are distinguished (ECCH the case for learning, 2020):

1. Case study method of Harvard Business School.
2. The research method of Chicago Business School.
3. The University of Cape Town training (South Africa).
4. Japanese approach to learning.

The case study method and problem-based learning have become the most common interactive teaching methods in entrepreneurship education. Being first developed at Harvard Business School at the beginning of the 20th century, the case study method has become popular today; it has already been introduced into entrepreneurship education. The case study method can be successfully implemented in modern entrepreneurship education: it makes it possible to develop the skills of analysis and use of various options to achieve results. Thus, the innovative pedagogical potential of the method is very high. It combines argumentation, disputes, discussions, training of discussion participants and compliance with communication rules, which together form student entrepreneurial competences.

## LITERATURE REVIEW

Case studies as a teaching method are aimed at the development of the so-called student soft skills. They include communication skills, finding alternatives and making decisions (Adelman, 2015; Orr & Weekley, 2019).

The case-study method is especially valuable for entrepreneurship education as the desired result of entrepreneurial activities can be obtained in several ways (Brookfield, 2005).

Case studies in modern entrepreneurship education are very popular as they contribute to the achievement of the key entrepreneurship education goals (Bonney, 2015; Volpe, 2015):

- Acquisition of fundamental knowledge.
- Application of fundamental knowledge in certain situations.
- Development of a common policy.

The problem is defined as the one that corresponds to the real situation that students encounter in their work experience (Orr & Weekley, 2019); the involvement of students in the educational process is increased; students are encouraged to use various approaches and interpretations in their discussions; the attention and problem-solving orientation of the audience are expanded; learning without pressure is promoted; depersonalization and abstraction present in teaching and learning are reduced (Grauer, 2012; Lim, 2014; Berte et al., 2018).

Cases are developed and used depending on various instructional goals and course objectives, for example (Brookfield, 2005; Cerqua et al., 2014; Meluch & Gettings, 2019):

- Improvement of socialization skills through real experience.
- Development of personal skills of response and behavior in difficult situations.
- Development of skills to separate facts from assumptions.
- Setting goals and objectives, as well as the formulation of strategies for managerial actions.

- Gaining experience in carefully arguing personal opinions and resisting the temptation to immediately draw conclusions on the facts, the ability to listen to different opinions.
- Improvement of the ability to apply theoretical knowledge for practical purposes.
- Solving problems and making decisions in a group.
- Improvement of diagnostic and design skills for effective intervention in managerial decisions.
- Verification of personal values and goals.
- Development and verification of boundaries and behaviour.
- The ratio of the “*big picture*” to the “*small example*”.
- Risk assessment in management.
- Bringing a sense of personal involvement in achieving goals.

In entrepreneurship education, this method is used in various ways: it is flexibly used to support the standard approach to teaching or as the main teaching method (Costa et al., 2015). Today, the Case study method is very common in the United States and developed European countries. It is part of an integrated approach to entrepreneurship education, which involves the use of a wide range of organizational forms and teaching methods: writing creative works, public presentation of projects, review and assessment of students' knowledge through their portfolios, discussions, discussion of cases and students' own experience (Brookfield, 2005).

The differences between the American and European approaches to the development of “*cases*” should be noted. Thus, the Harvard Business School “*case*” is of a considerable volume (20-25 pages of text and 7-8 pages of illustrations), while the European “*case*” is half as big. The Harvard method is an intensive training consisting mainly of the analysis of “*cases*”. Thus, this method is fundamental (Brookfield, 2005; Cerqua et al., 2014). The importance is also given to interactive teaching methods using video materials and computer software.

The method contributes to the development of communication and organizational skills (Bonney, 2015). In general, the studies on the effectiveness of the method are usually mixed. However, it concluded that the method facilitates the preservation of information and helps to understand the subject more deeply (Coimbra & de Oliveira Martins, 2013).

The main disadvantage of the case study method is its limited ability to offer generalized results (Thomas, 2017).

The use of case studies involves the following: professor's introductory speech; the formation of micro-groups; work in small groups; speaker presentations, case study solution, questions to speakers, general discussions; professor's closing remarks, results and rewards. The professor (tutor) performs the following functions: organizational, advisory and pedagogical.

European Case Clearing House (ECCH) offers the following case typology (ECCH the case for learning, 2020): cases, auxiliary cases, exercises, examples, complexes.

Case study provides for self-study and peer tuition. The professor moderates the discussion, as well as involves students in the process of making complex decisions (Aithal, 2017).

However, the effectiveness of this method directly depends on the content of the cycle of disciplines for the professional training of future entrepreneurs and the competence of the professor (Grauer, 2012).

A methodological problem when using case studies in entrepreneurship education is the adequate selection and/or development of cases (Penn et al., 2016).

To effectively solve case studies students should: properly organize their time, read the case twice, focus on strategic issues, not look down on “*evidence*”, work in a convenient time frame, transform their knowledge in management (Edgar, 2016; Paez, 2018; Wei et al., 2015).

Thus, despite the development of this methodology in world pedagogy, it should be noted that in the post-Soviet countries the case study method is associated with difficulties, namely, with the insufficient number and elaboration of cases.

### Setting Objectives

The analysis of the academic studies at business faculties of higher educational institutions in terms of the use of teaching methods allows us to conclude that the case study method has not yet become popular in entrepreneurship education. Despite the development of certain aspects of the case-study approach, the effectiveness of this method has not been fully investigated.

The feasibility of implementing the case study method in entrepreneurship education is determined by two factors: the development of the ability to apply knowledge and skills to solve specific life and professional problems becomes the criterion for the optimality of education.

The purpose of the research is to give credibility to the pedagogical conditions for the case study method application in entrepreneurship education, as well as to verify their effectiveness.

This can be achieved through solving the following tasks:

1. To analyse business teaching and determine the prerequisites for the application of the case study method.
2. Theoretically substantiate and develop a methodology for teaching business disciplines (using the example of various management disciplines) with the help of case studies; to partially test and verify it.

The research hypothesis is as follows: the use of the case study method in entrepreneurship education will be effective provided the following pedagogical conditions are met:

- Training of professors to develop cases and moderate discussions to provide pedagogical support to students involved in the case study solution.
- Development of cases in the relevant disciplines taking into account professional motives, interests, needs and goals of students in the development of future professional activities by clearly defining the place of the discipline in the overall structure of entrepreneurial competencies.
- Case studies should be carefully reviewed by the professor; they also require preliminary preparation of students.

## METHODS AND MATERIALS

To confirm the effectiveness of the case-study method in entrepreneurship education, a pedagogical experiment was conducted.

The preparatory stage of the experiment involved the assessment of student performance when performing cases in various management disciplines. The assessment card is shown in Table 1.

No.	Name	Individual work		Total grade points	Group work		Total grade points	Written presentation		Total grade points	Verbal presentation			Total grade points (7+8+9)	Total
		1	2	1+2	3	4	3+4	5	6	5+6	7	8	9		
		Max 1	Max 1	Max 2	Max 2	Max 2	Max 4	Max 2	Max 2	Max 4	Max 2	Max 2	Max 2	Max 6	Max 16

The assessment card consists of:

The “*individual work*” section that includes the following criteria:

- Column 1: Preliminary analysis (reasoned assumptions, preparedness)–1 point.
- Column 2: Possession of the necessary knowledge and the desire to generalize; suggestion of alternatives–1 point.

The “*group work*” section includes:

- Column 3: The ability to collaborate; organize a group; listen to peers; support the team and its members–2 points.
- Column 4: The ability to identify the essential elements in the case analysis for various alternatives proposed by the group; choose the most effective solutions; come up with a specific action plan or solution implementation plan–2 points.

The “*written presentation*”:

- Column 5: Most of the case problems are formulated and analyzed, a certain number of calculations are carried out–2 points.
- Column 6: Adequate analytical methods for processing information are demonstrated; the documents meet the requirements–2 points.

The “*verbal presentation*”:

- Column 7: All possible calculations are carried out and the documents are presented–2 points.
- Column 8: The ability to highlight the most important issues that require in-depth discussion; present own conclusions based on the case information and different from the conclusions of other students–2 points.
- Column 9: The discussion is developed, a reasoned answer to the questions of the professor and fellow students is given, the results of the discussion are summarized, the conclusions and options for solving the problem are formulated–2 points.

In management disciplines, a student can receive 6 points for one case. Thus, students get 18 points for three cases.

In total, two groups of students from the following universities were examined:

- Moscow State University (University 1).
- KIMEP University (University 2).
- Volgograd State University (University 3).

There were 15-18 students in the groups. At each university, the control and experimental groups were randomly identified.

The data obtained at this stage were used for the development of various cases in the relevant disciplines taking into account the professional motives, interests, needs and goals of students in mastering future professional activities by clearly defining the place of the discipline in the overall structure of entrepreneurial competencies.

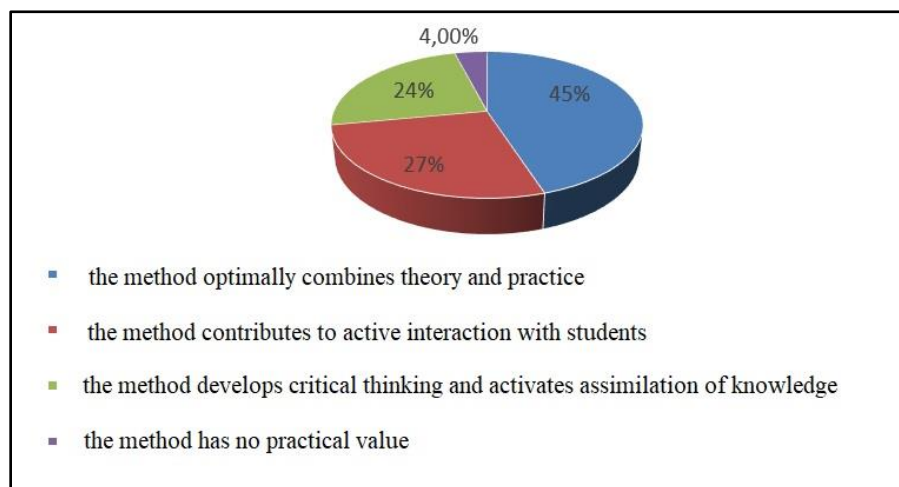
At the second stage of the experiment, the professors from various specialized departments of the three universities were interviewed to find out their attitude to the case study method.

At the third stage, various training sessions were held for faculty to increase their awareness of the methodological and technological aspects of using the case study method. Subsequently, faculty developed appropriate cases to be implemented in the educational process. The study on the work of the control group when performing the developed cases in management disciplines was also conducted at the third stage (Student performance assessment card).

## RESULTS

The generalized results of the first stage of the study for the control and experimental groups of each university are presented in Table 2. Student assessment data can be found in Appendix 1. The statistical dispersion indicator was a bit different for each group.

At the second stage, a survey of the university professors was conducted to identify their attitude to the case study method. Generalized practical experience of using the case study method in specialized business disciplines showed that most professors have certain ideas about the advantages of the method as a technology for preparing future specialists. Forty-five per cent of the faculty surveyed associate the importance of implementing the case study method in the educational process with the ability to optimally combine theory with practice; 27% believe that this method contributes to their active interaction with students, and 23% are sure that case studies develop critical thinking and activate assimilation of knowledge (Figure 1).



**FIGURE 1**  
**GENERALIZED PRACTICAL EXPERIENCE OF USING THE CASE STUDY METHOD**

<b>Table 2 GENERALIZED RESULTS OF THE FIRST STAGE OF THE STUDY FOR EACH UNIVERSITY GROUP</b>					
<b>Indicator</b>	<b>Individual work</b>	<b>Group work</b>	<b>Written presentation</b>	<b>Verbal presentation</b>	<b>Total grade points</b>
<b>University 1</b>					
Control group					
Mean value	1.33	1.87	1.80	2.80	7.80
Dispersion	0.38	0.70	0.74	2.03	4.17
Standard deviation	0.62	0.83	0.86	1.42	2.04
Statistical dispersion	2.16	2.24	2.09	1.97	3.82
Experimental group					
Mean value	1.00	2.19	2.00	2.44	7.63
Dispersion	0.53	0.83	0.80	1.60	3.05
Standard deviation	0.73	0.91	0.89	1.26	1.75
Statistical dispersion	1.37	2.40	2.24	1.93	4.37
<b>University 2</b>					
Control group					
Mean value	0.89	2.17	2.22	2.50	7.78
Dispersion	0.69	0.50	0.77	1.32	0.69
Standard deviation	0.83	0.71	0.88	1.15	0.83
Statistical dispersion	1.07	3.06	2.53	2.17	1.07
Experimental group					
Mean value	0.89	2.17	2.22	2.50	7.78
Dispersion	0.69	0.54	0.97	1.32	0.69
Standard deviation	0.83	0.73	0.99	1.15	0.83
Statistical dispersion	1.07	2.96	2.26	2.17	1.07
<b>University 3</b>					
Control group					
Mean value	0.89	2.17	2.22	2.50	7.78
Dispersion	0.74	0.65	0.56	2.37	0.74
Standard deviation	0.86	0.81	0.75	1.54	0.86
Statistical dispersion	1.04	2.68	2.97	1.62	1.04
Experimental group					
Mean value	0.82	2.23	1.76	3.23	8.06
Dispersion	0.65	0.57	0.94	1.32	0.65
Standard deviation	0.81	0.75	0.97	1.15	0.81
Statistical dispersion	1.02	2.97	1.82	2.82	1.02

However, a large majority of faculty did not have a full picture of the potential of the method in teaching business disciplines. The faculty also demonstrated low awareness and lack of skills to develop a case study for business disciplines based on the integration of various knowledge; insufficient skills to organize various types of student activities when performing cases, etc. Faculty survey and the results of the first stage of student research demonstrated students' interest in case studies and positive motivation for working with them. However, case study skills appeared to be low.

There were pedagogical seminars to familiarize faculty with the methodological and technological aspects of the method. Pedagogical workshops contributed to the formation of practical skills to apply case studies when teaching business disciplines, as well as to the ability

of professors to act as moderators of discussions demonstrating tolerance, acceptance of different opinions and cooperation on an equal footing.

Further, the professors developed various cases. The faculty algorithm for the case creation was developed at the third research stage. It included setting didactic goals, determining the place in the academic discipline structure, analysing the content of the educational material of a particular discipline, selecting and formulating topics, collecting information based on the literature study, choosing a genre, writing a text, development of creative tasks and their implementation in the educational process, as well as information and methodological support for teaching disciplines, methodological recommendations for professors and students to develop cases.

Special attention has been given to the activities of the professor as a moderator and the implementation of the functions related to the pedagogical support of students when performing cases. The faculty algorithm included the following:

- Solving organizational issues related to the lesson plan development.
- Scheduling of its various stages.
- Development of discussion points.
- Selection of arguments and counterarguments that will help to manage the discussion when dealing with a problematic issue.
- Intensification of student learning and cognitive activities in mini-groups.
- Involving students in individual work.
- Creation of a psychological and pedagogical atmosphere that encourages students to discuss a problem situation.
- Assessment of the content and presentation of the solution to the case problem.
- Organizing a case discussion in order to identify the advantages and disadvantages of the proposed solution.
- Stimulation of students' mental work and their interaction in the discussion; summing up, analysis and evaluation of student work.
- Involving students in self-assessment of the results.

The student algorithm included the following:

- Individual work with cases.
- Work in mini-groups.
- Presentation and collective discussion of the assignment results.

The preparatory activities of students included:

- Familiarization with the content of cases and the main problem awareness.
- Processing of recommended literature.
- Predicting a range of questions to be discussed to solve the problem situation.
- Search for alternative solutions to the problem situation.
- Exchange of ideas in order to formulate the case problem from the standpoint of the group.
- Answers to the professors questions and participation in the discussion.



- Development and adoption of a solution to the problem in mini-groups; participation in the presentation of the case problem solution and provision of relevant evidence.
- Insight into the presentations of students participating in the discussion of cases and the thoughts of the professors; self-assessment of the case results.

The effectiveness of the developed pedagogical conditions for using the method when teaching business disciplines was determined using relevant criteria and indicators:

- Motivation of students to study special disciplines using the method.
- Creative activity of students when working with cases.
- The ability of students to extensively analyse cases (the clarity of presentation of the case analysis results, the use of the necessary information and facts in the analysis of the case problem situation, the originality of the analysis results presentation, new understanding of the case problem, the existence of a clear action plan to solve the case problem with the identification of its advantages and disadvantages, etc.).

The preparedness of faculty for the development of cases and acting as moderators to provide pedagogical support to students working with cases was determined by the following indicators:

- Awareness of methodological and technological aspects of the method, principles and methods of developing cases.
- The skills of case-based teaching.
- The ability to accompany students while working with a case; the ability to demonstrate tolerance, accept different opinions and collaborate on an equal footing, etc.

Control assessments and statistical processing of diagnostic materials after the forming stage of the experiment showed a positive trend for all criteria and indicators in the experimental group compared to the control one (Table 3).

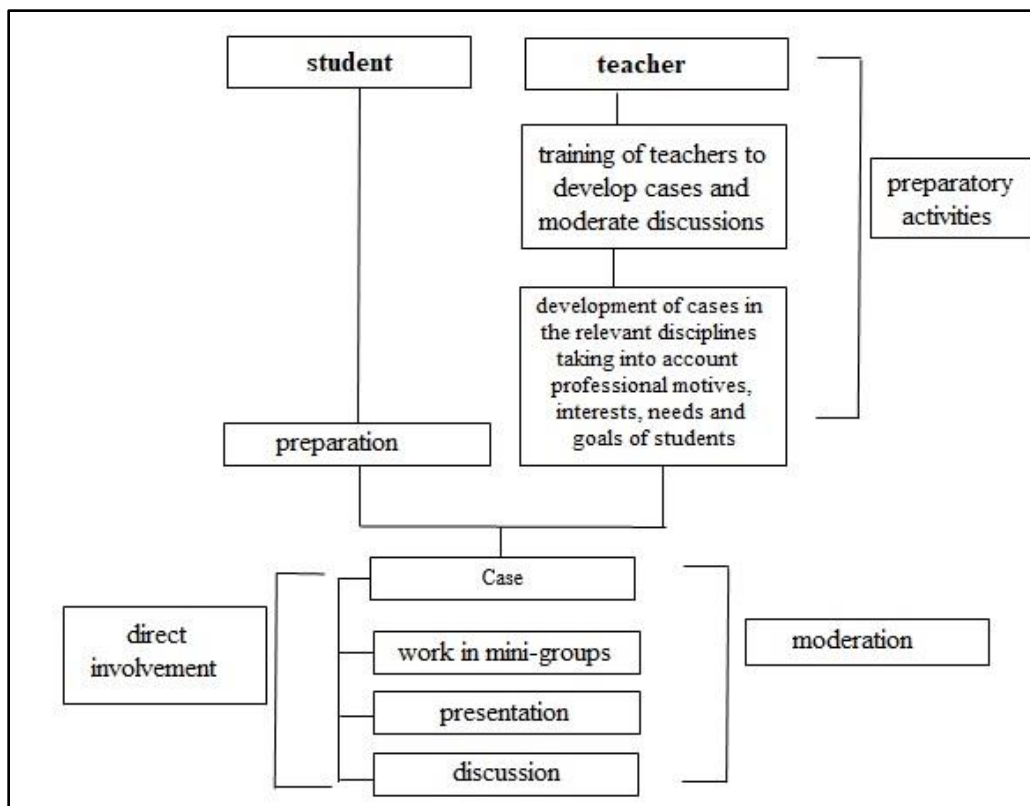
Mean value	Individual work		Group work		Written presentation		Verbal presentation		Total grade points	
	Before the experiment	After the experiment	Before the experiment	After the experiment	Before the experiment	After the experiment	Before the experiment	After the experiment	Before the experiment	After the experiment
	University 1									
Control group	1.33	1.35	1.87	2.1	1.80	1.9	2.80	2.9	7.8	8.2
Experimental group	1.00	1.9	2.19	3.7	2.00	3.5	2.44	4.1	7.63	12.1
	University 2									
Control group	0.89	0.92	2.17	2.21	2.22	2.35	2.50	2.55	7.78	7.9
Experimental group	0.85	1.85	2.14	3.8	2.35	3.4	2.7	4.3	7.91	12.9
	University 3									
Control group	0.89	0.91	2.17	2.25	2.22	2.31	2.50	2.61	7.78	7.81
Experimental group	0.82	1.8	2.23	3.9	1.76	3.45	3.23	4.5	8.06	13

Thus, the effectiveness of the developed pedagogical conditions for the case study method application when teaching business disciplines and the necessity of introducing the

method as an important prerequisite for the professional development of students are proved based on the experimental data.

## DISCUSSION

The results of the study made it possible to develop a model of the effectiveness of case studies in entrepreneurship education (Figure 2).



**FIGURE 2**  
**MODEL OF THE EFFECTIVENESS OF THE CASE-STUDY METHOD IN**  
**ENTREPRENEURSHIP EDUCATION**

Model implementation requires the following components:

- Goal (to increase the compliance of student skills with the labor market requirements).
- Content (to get knowledge and relevant skills).
- Principles of implementation (individualization, professionalization, cooperation, creativity, etc.).
- Forms and methods (seminars, workshops, modelling method, system analysis, problem method, game and interactive methods, brainstorming, discussion, etc.).

The approach proposed in the study is implemented in the classroom; it is a combination of the best practices of American and European schools (Meyer et al., 2018). In this regard, the approach involves a small number of cases which can be solved within a limited number of academic hours and the length of a lesson.

Current labor market conditions dictate the need for practice-oriented entrepreneurship education. The case study method allows students to get knowledge of the subject; shape a holistic entrepreneurial worldview; develop communication skills, intuition, the ability to generate alternative solutions, the ability to self-educate and realize creative potential in future professional activities.

A case-based approach to teaching business disciplines is characterized by the variability of the information and communication interaction: “*student–student*”, “*student–small group*”, “*student–professor*”, “*professor–student group*”. All pedagogical process participants are equal partners and the teacher is the discussion moderator.

The feasibility of implementing the case study method in entrepreneurship education is confirmed experimentally; it is explained by its extensive pedagogical and didactic potential, which is outlined as follows:

- It contributes to the cognitive activity of students.
- It develops students’ personal qualities.
- It encourages independent choice and search for optimal solutions to the problem.
- It is a kind of research and design technology for vocational training.
- It is an effective technology for group work.
- It integrates developmental education technologies, etc.

## CONCLUSIONS

The pedagogical conditions for the effective case study method application were determined based on the developed model and the essence of the method taking into account the features of teaching business disciplines:

- Training of professors to develop cases and moderate discussions to provide pedagogical support to students involved in the case study solution.
- Development of cases in the relevant disciplines taking into account professional motives, interests, needs and goals of students in the development of future professional activities by clearly defining the place of the discipline in the overall structure of entrepreneurial competencies.
- Case studies should be carefully reviewed by the professor; they also require preliminary preparation of students.

The results of studying the real practice of using the method when teaching business disciplines showed that most professors have certain ideas about the advantages of the method, but they lack practical skills to implement it. The analysis of student questionnaires demonstrated students’ interest in case studies and positive motivation for working with them. However, their case study skills appeared to be extremely low.

The didactic potential of the case study method is outlined as follows:

- It is a research technology for training future specialists.
- It is an effective technology to encourage students to work in groups, as well as to promote information exchange between the participants when searching for a solution.
- It is a synergistic technology; it integrates developmental education technologies at the group and individual level.

- It is a type of design technology.
- It concentrates the achievements of the educational technology “*Creating a situation of success.*”

However, the application of the method is also associated with certain problems:

- High training costs.
- Out-dated cases.
- The need for highly qualified case developers.
- The methodology for conducting classes is quite complicated and requires special faculty training.
- The inability to apply an individual approach.

In general, students’ attitude to case studies is positive: they note that learning becomes less formal and resembles a game. The greatest advantage of the method is the ability to develop the speed of information processing in extreme situations to generate right decisions.

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