DEVELOPING INNOVATIVE COMPETENCE IN ECONOMICS STUDENTS

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Abstract

Research purpose. The main task of this article consists in outlining several conceptions of teaching that we consider crucial to develop knowledge, skills and personal qualities in future managers, which they need in a constantly changing innovative business environment.

Design/Methodology/Approach. Methods of contrastive analysis, method of decomposition and questionnaire survey form the methodological basis of research.

Findings. As a result of empirical research, the article describes the level of students' demand for mastering innovative skills and the extent to which this demand is met in the framework of educational programme.

Originality/Value/Practical implications. The method elaborated in the article is easily applicable in different educational programmes, economic subjects and environments as well as different curriculum plans. It is expected that improved learning skills and satisfaction will increase learning outcomes in long-term outlook. The article suggests new integrated teaching approach to organising collaborative work so that the full potential of students in solving economic problems is developed through and alongside the use of interactive learning tasks. It relies on thorough analysis of reasons for students' critical attitude towards creative and innovative thinking in their profession.

Keywords: Innovative Culture; Innovative Competence; Faint Signs; Creative Education; Critical Thinking; Case Study Learning.

JEL codes: I23; A20.

Introduction

The Russian economic system is expected to turn into an information technology economy with a strong focus on innovative development. But there are significant gaps in the level of development of different sectors, markets, regions, as well as crucial gaps in appropriate cultural support.

The more advanced innovative culture we have, the more deeply the relationships among the scientific sphere, the sphere of production and the needs of society are developed. The active diffusion of innovations in all spheres of public life is only possible in the case of progressive increase in innovative competence of managers. They are expected to tackle problems that require imaginative solutions, because the driving force of any successful innovation is human imagination combined with expertise. In this IT (information technology driven) economy, the innovative competence presents a crucial point of professional development. Thus, Russian economy truly needs much more open-minded managers with firm readiness to fulfil global transformations in a dynamic environment, to face new social issues, to maintain flexible and responsible policy of balanced development and to address the multiple consequences of innovative growth. The innovative skills, aptitudes and values constitute growing IT economy.

Modern companies are functioning and competing in a business environment that is prone to change faster than ever before with the result that the educational system is not keeping pace with business needs (Farashahi, & Tajeddin, 2018). As a result, we face the risk that business needs skills that current

academic education is not designed to produce. This issue emerges notably in innovative sphere with innovative theories not corresponding to practical needs. Hussler and Ronde (2005) supported the idea of the link between the educational structure and the companies' competences to innovate, which are on track to depict considerably the innovative potential of the whole regions.

If business education is behind in providing adequate knowledge and skills in innovative sphere, graduates experience difficulties when applying for position in innovative company and dealing with the challenges of the real world of innovative business.

It has created certain pressure and calls for moving towards professional innovative competences as reflected in professional standards issued in 2018–2019.

In response to this problem, a huge amount of professional standards is appearing every year; these standards are aimed at modifying the results of the educational process. The need for deep transformation in terms of economic learning process itself becomes doubtless.

Therefore, the Russian educational system requires modern methods of teaching business subjects to students in universities. The urgency of this problem results from the fact that the development of students' innovative competence can make a significant contribution to their professional career.

Universities are expected to create value for employers and provide students with real-world learning experience and deep innovative competence. Thus, economics education should be viewed in alignment with innovative thinking conceptions applied to the real-world situations. Valuable learning material has to be found in dynamic innovative spheres of business and explored using interactive learning methods.

According to the most narrow interpretation, innovative competence is related to the creation of product and process innovations, implementation of technological inventions and commercialisation of scientific research results.

However, the wide interpretation connects innovative competence with interdisciplinary approach and a big picture of future development. Innovative competence is linked to critical thinking, creativity and strong analytic skills. Innovative approaches are not exclusively confined to technological research and commercialisation. Any business activity that involves the human mind and human intelligence is a potential source of innovative approach.

New subjects, new aspects of education and new educational tasks require more progressive, efficient and innovative teaching methods. This article considers how to respond to the complexity of innovative economic system, resulting in the educational system facing new challenges related to developing innovative culture and innovative competence in students. Thus, the main focus of this article is to find out and to elaborate flexible teaching approaches and interactive teaching methods.

Literature Review

Given that innovative culture and innovative competence are important components of professional qualifications, these aspects are studied in detail in different research works. According to the conventional definition, innovative competence is the ability to fulfil innovative projects and strategic goals of enterprise. This ability is formed based on the past experience, achieved results in changing business environment (Blokhina, 2019). According to Umemura (2016), the predominant type of company's innovative culture encourages it to support incremental innovation or to be more supportive of radical innovation. The association between institutional environments and innovative competences results in different paths in pioneering an industry at the technological frontier.

Tsou, Chen and Liao (2014) favoured an idea that innovation culture mediates the path between strategic orientation and organisational performance. The authors distinguished two main constituent elements of innovative competence: exploratory and exploitative innovative competences both of them being stimulated by proactive company's market orientation. Exploitative innovation competence affects service delivery innovation when managers start to understand the market trends and the technology availability and become able to customise corresponding product features. These actions in their turn are expected to further stimulate exploitative innovative competence and facilitate innovations.

Ozkaya et al. (2015) supported the idea that knowledge competencies are indeed mediators of the positive relationships between customer and competitor orientations and market-based innovation.

Some authors emphasised the systemic and integrated character of innovative culture, which includes steady motivation for professional training, creativity, personal initiative and intellectual openness, assertiveness and leadership (Zagorulya, 2015). One of the key components is situational competence, which means flexibility and ability to adapt to a changing environment (Yakovleva, 2017). According to some approaches, innovative competence should include visual competence. This means manual and computer skills of creating rich infographics (Maslov & Smirnova, 2015). Mastering innovative forms of communication can also be identified as one of the important components of innovative culture (Ogannisyan, 2017).

According to technological approach (Schmidt & Porteus, 2000), innovative competence characterises a company's ability to turn an investment in new technology into a marketable product and it necessarily includes cost competence defined as ability to produce the new product resulting from the new technology at lower cost.

Another way to define the core of innovative competence is to study what competences innovative companies demand of their employees. Referring to Santandreu-Mascarell, Garzon and Knorr (2013), innovative organisations value employees' characteristics that are tightly linked to entrepreneurs' characteristics meaning seeking information and new opportunities, being able to take risks in innovative ventures and being initiative. Thus there is an overlap between entrepreneurial and innovative competences.

Managerial and cognitive mobility are presented as a significant part in the model of innovation manager competence. Managerial mobility is defined as readiness for changing the content of activity. Cognitive mobility consists of the ability for effective work with new knowledge (Malastseva, 2017). Another distinctive trait of innovative culture is foresight thinking, which means a capacity for building the future of social and economic system (Sidunov, 2015). Innovative manager is characterised (Szczepanska-Woszczyna, 2014) by the ability to sense the needs, anticipate changes, stubbornness combined with persuasion skills and the ability to associate the overall vision with attention to unobvious details.

There is a particular concern about the readiness for innovative. To be ready to fulfil innovations, future manager should have several qualities, such as motivation and aspiration to carry out innovative projects (Akhmetzyanova & Pronina, 2018; Sibagatullina & Zaripov, 2018).

A strong focus is placed on the life cycle of innovative management competences. It presents a classification of progressive stages of competence levels from achieving basic knowledge to managing complex unpredictable situations. A manager with a high level of innovative competence is able to produce new values, principles and approaches in their professional area (Kuklina, 2014).

Innovative culture is based not only on professional skills but also on high level of intuitive thinking. This contributes to active participation in reforming activity that is of exclusive importance in an innovative society (Chelnokova, Kaznacheeva & Terekhina, 2018).

Valuable innovative decisions often result from unexpected leaps of imagination, so that creativity has an increasing role in innovation activity. Creativity can be expressed in the fluency (amount of generated ideas), originality (non-standard approaches), flexibility (using different many-sided approaches to problems), openness to new information and rejection of conventional solutions (Panferov, 2018).

Liu (2010) proved that both competence exploration and competence exploitation are closely related to the creative component of companies' innovative activity. Bosic Yams (2018) suggested that 'innovative competence development should engage both cognitive and emotional capacities' because 'being competent in any field of work today demands to be able to act in both known and unknown situations'.

Creativity is closely linked to innovative competence because they both rely on the ability to be more aware of opportunities around through reflection, questioning taken-for-granted routines, getting new perspectives and widening the existing ones.

The social value and personal significance of innovative culture determine orientation to its promotion

within the whole educational process. At the same time, there is a growing concern in the educational system about how innovative competence may be established, developed, and strengthened within the learning process.

Whitley (2002) highlighted the variety of ways in which business and universities in different countries can develop innovative competences. Contrasting styles of innovative competence development can arise from combinations of different institutional features such as organisation of research training, the flexibility of researchers and the organisation of scientific careers. Some researches showed (Szczepanska-Woszczyna, 2014) that innovative competence may be promoted through strengthening subjective factors (predispositions, trait, skills and abilities and attitudes) and developing working environment.

Quintana-García and Benavides-Velasco (2008) showed that the level of innovative competence is influenced by technological diversification in a positive way, especially when referring to exploratory innovative capability and enhancing novel solutions.

Practical aspects of developing students' innovation culture are presented in several works (Leonov, 2015). One option is to elaborate technics of active comprehension such as the K. Ishikawa Diagram, making conflict cards, the methodology of value hierarchy and others (Kolchina, 2013).

Many authors pay attention to the benefits of synectics methods, which make a significant contribution to disclosing internal creative resources, figurative thinking and prognostic ability. These methods should be systematically applied in business tasks with the result that they fasten innovative behaviour and innovative algorithms (Chelnokova, Kaznacheeva & Terekhina, 2018).

Innovative competence carries with it the idea of using special technics conducive to innovative decision-making. This causes the relevance of lateral thinking methods in modern business. The 'six thinking hats' method promotes design thinking that allows for the raising of effectiveness of decision-making process (Sulaimanova & Ergasheva, 2017). The technic of provocation is recognised to be vital to learning tasks associated with non-evident problems. This technic enables manager to move from one known idea to new ideas (Galiullina, 2017). Empirical surveys reveal educational productivity of technologies such as 'didactic game', methods of generating ideas in group ('brain storm') and 'project training'. It is recommended to combine them with case study, 'imitating trainings' and 'academic debate' (Torkunova, 2013). Technology of multidisciplinary cases creation is considered (Gitman, Ye, Gushchina & Gitman, 2014) as crucial to improving the level of graduates' innovation competences. This case should touch upon pressing issues of conjugate subjects within the curriculum in order to facilitate cross-disciplinary integration and intensification of students' self-guided work. The main point is that issues suppose alternative solutions so that students are encouraged to research advanced scientific and innovative experience.

There is also a strong focus on evolving suitable patterns of context learning. Context is defined as a system of internal and external conditions of social, professional and educational activity in an innovative sphere having a significant impact on how a person perceives and reforms innovative situations (Malevskaia-Malevich, Leonov, & Zaborovskii, 2018). Educational innovative context should provide conditions to systematically apply special knowledge and skills and then enrich this experience based on the creative approach (Fedotova & Kurakina, 2015). Within this approach a new form of lectures called 'problem-project lecture' is elaborated. Learning material contains problems and solutions in implicit form so that students try to identify on their own problems and possible ways of overcoming them (Baranov & Sharafutdinov, 2016). Another way (Naumkin et al., 2016) is using flexible innovative training module added to core curriculum in order to enrich the content of technical disciplines, including the core part, variable and invariable parts.

The idea of contest learning is extended to the conception of coworking space in this work (Murray, Bejarano, & Matsuno, 2016), where coworking spaces are expected to be a real environment of collaborations between academy and industry, which allows students to create innovative engineering projects and thus to strengthen their innovative and technical skills in the atmosphere of social learning, open discussion, and valuable feedback. Coworking spaces contribute to innovative culture development because they support students' engagement and motivation to solve real problems and unmet needs in

an innovative way, with the use of global mindset, deep technological knowledge, lateral thinking and building professional networks.

Some articles reveal the educational appeal of game technologies to the modern higher school. Game technology may be defined as a set of psychological and pedagogical technics that imitate professional activity and use models of real business process. During a business game, students gain active communicative positions when dealing with professional problems (Cherkashina & Morozova, 2015).

As it is shown in the article by Bozic Yams (2018), art-based methods encourage employees to embrace ambiguity, explore unknown fields and exploit different types of knowledge, including the tacit knowledge and intuition. Choreographic tools contribute to developing innovative frame of thinking about using body, movement, space and time in new ways and enable employees to develop their personal innovative practice and create conditions they require to be innovative.

On the basis of the brief review presented above, we can come to a conclusion that there is a growing awareness of the need to respond practically to the increasing demand for innovative competence and creative thinking development. Theoretical problems of innovative competence development are extensively exposed in scientific publications, but some practical aspects of its introduction in pedagogical processes remain less worked out.

Present studied pay considerable attention to the components of innovative culture, but there is some confusion of different notions: innovative culture, informational and communicative culture as well as innovative, research and entrepreneurial culture.

Although the significance of emotional components of innovative culture is accentuated, insufficient attention is given to the principles of teamwork in an innovative sphere. This methodical gap is particularly significant, given the need to ensure suitability of peculiar pedagogical tools to special management disciplines.

As long as innovative competence is a many-sided phenomenon, there is a very eclectic set of methods aimed at promoting and strengthening it within the educational process. More emphasis is placed on methods related to progressive informational and communicative technologies and less emphasis on methods associated with creativity and 'big picture' construction.

Finally, the dynamic aspect of innovative competence development does not seem to be not adequately explored and not sufficiently underpinned by a suitable methodological base. This component is not even mentioned in numerous classifications.

Methodology

Taking into consideration all the remarks listed above, we state the following guidelines of our research.

The main research question is to elaborate a flexible holistic approach to innovative competence formation and innovative thinking support so that it is possible to develop all its components based on an effective well-balanced set of interactive teaching tools and pedagogical technologies.

As the effectiveness of innovative activity largely depends on personal self-identification as the bearer of innovation culture, we insist on considering and strengthening interrelation of social responsibility, an active social position and professional role of innovator in a modern economy development. What is expected to be the most important point within this conception is the responsibility for both social and environmental consequences of economic changes including innovative growth and globalisation processes, as well as awareness about significant social and technological transformations.

Given the significance of the dynamic component of innovative culture, there should be a greater emphasis on developing students' abilities to maintain a complex balance amongst breadth, depth and swiftness of evaluation; to generate the big picture based on the faint signals and focus points; to establish sensitive areas of new possibilities; and to anticipate new tendencies.

This study is designed to determine the principles of educational conception that is predominantly aimed at forming group educational strategies and promoting effective interchange of new knowledge. It

should encourage the main point where interactive technologies can contribute to evolving innovative culture in a modern educational process.

More attention should be paid to elaborating principles of selection, combination, and reciprocal intensification of didactic technics and methods promoting different components of innovative thinking. That is why a questionnaire survey clarifying current tendencies in innovative learning will present the core element of this research.

Results

A questionnaire survey was held to identify students' attitude towards innovative culture as a part of their professional competence, to clarify their demand for mastering innovative skills and to estimate to which extent this demand is met in the framework of educational programme. The survey involved students of first and fourth course learning economics and management in the academic year 2019–2020 in the Saint-Petersburg State University of Industrial Technologies and Design

We distributed the questionnaire among 100 students and received 79 completed and usable responses. The sample of 79 students consist of 43 students of first course and 36 students of forth course from various specialisations in economics and management field. Our sample is demographically young because all students were 21–25 years old.

First, students were invited to formulate their understanding of innovative culture. An analysis of definitions proposed by respondents allows us to distinguish knowledge-oriented position, activity-oriented position and perception-oriented position.

Innovative culture as special knowledge is defined as

- peculiar culture of forecasting and conceptual foresights connected with novelties;
- awareness of scientific achievements, production and technological innovations and new informational opportunities related to professional sphere;
- ability to acquaint with innovative approaches to business processes optimisation.
- According to the perception-oriented conception, innovative culture may be determined as
- understanding the value of innovations in terms of professional activity;
- high susceptibility to new breakthrough ideas in professional sphere;
- ability to take into account and pay attention to innovative requirements of customers.
- Innovative culture is tightly associated with the following actions:
- ability to use and combine necessary resources to achieve an innovative goal;
- readiness for introducing new elements into traditional business processes and supporting novelties in conventional work procedures;
- effective knowledge management aimed at strengthening company's competitiveness.

Summarising, the students have to identify the most important components of innovative activity and the impact that different factors have on the pace at which professional competence is gaining innovative feature.

In order to identify students' attitude towards the innovative competence, they were invited to answer the following question: 'How important are innovative culture and innovative skills for your future job?' with options of answers changing top-down from '*Crucial and indispensable*' to '*Absolutely useless*'. The results for first-year students and fourth-year students are presented in Table 1.

Table 1. Significance of innovative culture

Group of respondents	Options of answers				
	Crucial and indispensable	Important	Rather useful	Rather useless	Absolutely useless
First-year students (persons)	21	19	3		
First-year students, share (%)	48.8	44.2	7.0	0.0	0.0
Fourth-year students (persons)	6	18	9	3	
Fourth-year students, share (%)	16.7	50.0	25.0	8.3	0.0

As can be seen, the largest group of first-year students attributes high importance to innovative culture in the professional sphere: slightly less than 50% of respondents classify it as crucial and just more than 44% choose the option ‘important’. Negative assessments (the two right columns) were not chosen at all within this group of respondents.

At the same time, answers of fourth-year students differ considerably. Negative assessment makes up more than 8% of respondents, whereas students choosing answers ‘Crucial and indispensable’ and ‘Important’ form 16.7% and 50% of respondents, respectively. Furthermore, precisely a quarter of students are not sure about the utility of innovative skills. It seems to be a dramatic shift compared to the results of first-year students. This change in perception may be testimony to the fact that students may lack positive experience of implementing innovative methods in learning tasks. Thus we can state that there is a strong demand for innovative competence amongst students, which implies a serious challenge for the educational system. And when there is no convincing support of innovative culture in the educational process, it is sometimes in ways that could turn a strong innovative motivation into a doubtful confusion about the value of innovative skills.

In order to give a bit more background and precise students’ requirements, we asked the following question: ‘How far does your profession involve using creative thinking?’ with options of answers changing top-down from ‘*Crucial and indispensable*’ to ‘*Absolutely useless*’. The results for first-year students and fourth-year students are presented in Table 2.

Table 2. Significance of creative thinking

Group of respondents	Options of answers				
	Crucial and indispensable	Important	Rather useful	Rather useless	Absolutely useless
First-year students (person)	17	16	9	1	
First-year students, share (%)	39.5	37.2	20.9	2.3	0.0
Fourth-year students (person)	9	12	10	4	1
Fourth-year students, share (%)	25.0	33.3	27.8	11.1	2.8

The table shows that a little fewer than 40% of first-year students opt for indispensability of creative skills and around 37% insist on their importance, whereas far less than 21% of respondents tend to treat them as rather useful. Thus, more than 95% demonstrate their interest on making use of creative thinking in professional sphere.

The figures related to fourth-year students provide evidence of decrease in aspiration to evolve creative skills: almost 14% of students are sceptical of the value of creative thinking and the share of highly

motivated students decreased by 14.5%, from 39.5% to 25%. It should be pointed out that this pattern represents the changes in percentage rather than the global figures. Students do not receive convincing examples of creative skills being fundamental to advances in business, technologies, and science.

Table 3 allows estimating to which extent the demand for creative skills development is met in the framework of educational programme.

Table 3. Development of creative skills in learning process

Groups of respondents	Questions				
Question for first-year students	Do you expect that creative approaches to professional tasks will be evolved within the framework of educational process?				
	Options of answers				
Group of respondents	Yes, it is an inalienable part of educational programme	Yes, creative approaches will be promoted within the majority of subjects	Rather yes, elements of creativity will be partly developed in the framework of some subjects	Rather no, it is not a necessary component of professional education	No, creativity does not form a part of educational programme
First-year students (persons)	11	16	15	1	
First-year students, share (%)	25.6	37.2	34.9	2.3	0.0
Question for fourth-year students	How could you estimate the level of developing creativity and creative approaches to professional tasks during lectures, discourses and practical tutorials?				
	Options of answers				
Group of respondents	Creative skills constitute an inalienable part of all the topics of educational programme	Creative approaches are actively formed within the majority of subjects	Some elements of creative thinking are evolved in the framework of some subjects	Creative approaches are rarely involved in learning tasks	Creativity is not involved in educational process
Fourth-year students (persons)	7	3	12	13	1
Fourth-year students, share (%)	19.4	8.3	33.3	36.1	2.8

As might be seen, the educational process does not fully comply with the request for familiarising with creative approaches in a professional sphere. Just short of 63% of students expressed the hope that creative skills were to make a contribution to the capture of professional knowledge. As to the real picture, more than one-third of respondents indicate that creative methods are rarely or never implemented in learning tasks. Only around a quarter of students confirm steady development of creative thinking, which presents quite poor figure compared to the expectations.

Insufficient attention to the creative component of the educational programme caused a shift in favour of a more critical attitude towards creative thinking in particular and innovative approaches in the whole. This situation is giving rise to a certain amount of frustration concerning students' creative fulfilment and their career prospects in innovation-orientated business environment.

Discussion

Subsequent to the analysis presented above, we state that it is necessary to introduce in the educational process a major drive in its aim to consolidate different pedagogical technologies promoting innovative thinking as well as to strengthen the innovative component in the content of special disciplines. There is definitely room for increasing appliance of interactive technologies involving creative thinking in the framework of lectures, tutorials and individual work. We emphasise four conceptions regarded as crucial when talking about developing innovative competence of students.

We have chosen and formulated these conceptions corresponding to the major learning outcomes to be achieved. Following Rubin and Martel theory (2009), there could be distinguished cognitive, interpersonal, and affective learning outcomes. All of them we define as crucial to innovative competence development. Problem-solving skills, associative thinking and ability to see opportunities form the core of cognitive outcomes in innovative sphere. Affective outcomes are related to willingness and readiness for experimentations and novelties. Finally, we consider interpersonal learning outcomes through the ability to creative networking and translate new ideas persuasively. Thus, conceptions of Developing Creativity, Focus on Faint Signals, Handling Mistakes and Questions versus Answers are aimed at forming the framework for these skills development as shown in Figure 1.

Fig. 1. Innovative competence development

The first conception is associated with developing creativity in economic studies. Economic subjects that usually tend to be thought as uncreative actually have to be taught with placing emphasise on the creative component of business decisions and economic analysis. This component is crucial for both projecting new products and underlying hidden patterns in business environment. Creative play of mind and imaginative generation of ideas present a pivotal starting point for serious research, accurate assessment, long-term testing and the whole process of correcting, modifying, and refashioning all the parameters of the initial ideas. Thus, innovative culture is supposed to involve deep interaction between creative and evaluating thinking, constant shift in the focus of attention from generating solutions to estimating their relevance to the purpose at hand.

We assume that the purposeful development of creative thinking in economic subjects is sure to help students in broadening their horizons, finding new modes of innovative development and deepening their understanding of the business environment around them.

Our second conception is related to the fact that professionals in innovative sphere have to adapt to sweepingly emerging opportunities, which implies that they should pick up early signs of promising tendencies and construct the whole picture of future development according to these signs. Economics needs scientists, economists and entrepreneurs able to profoundly understand social and cultural processes, contextualising each other to such an extent that they present multicomponent, vague-structural and changeable phenomenon. The question is how to put huge amounts of data in order and create a big picture maintaining a balance between depth and breadth of analysis. Here we can refer to the weak signals theory and define conception of big picture prevalence. Weak signal may be defined as an indicator of change hardly perceptible at present, but which will constitute a strong trend in the future. Carrying out the innovative activity means being subject to significant changes in market conditions, about which there is no systematic and adequate information. That is why managers operating in a fast changing environment are supposed to pay increased attention to weak signals and even need weak signals mentalities to be implanted. Within learning courses, students have to find ways to engage with weak signals, to make non-evident connections, to see social aspects of economic tasks, to identify peculiar patterns and to relate them with their past experiences. Working with weak signals requires both imagination and critical thinking. Data, weak and strong signals, hypothesis and informational gaps together constitute the big picture, unique for each researcher and each entrepreneur.

Eventual outcomes of innovative activity might be different from those anticipated at the outset. The conception can change, transform and improve as new opportunities come into view, and, more importantly, it may happen not only because of successful implementation of the initial idea but also because of the revealed mistakes. Each successful innovative decision, let alone breakthrough ideas, needs periods when somebody tests various approaches, takes risks and makes mistakes without fear of failure.

Young professionals are expected to be very alert to the possibilities of informational technologies and to work effectively with tremendous quantity of diverse data. Self-confidence to learn new things and to try new methods not being frightened of totally different experiences is vital to achieve it. Only a very competent approach to handling mistakes may ensure for students the breadth of vision. It is necessary to take account of the value of the process, including inevitable inconveniences, and not only the inherent qualities of the result. The purpose is to construct productive team work or individual activity in perspective fields of business research, to encourage experimentation and risk taking, but perceive defeats as priceless learning experiences.

Our fourth and last conception is associated with the importance of questioning, exploring, and debating as starting points of any competence or just ‘Why not?’ conception.

Any science, including the economics one, is constantly dealing with two questions: ‘Why?’ and ‘Why not?’. Although the first question is focused on the explanation of existing situation, the second one is aimed at revealing obstacles for future development.

The most important condition implies that these ‘Why not?’ questions should be settled and formulated by students themselves so that these questions become of fundamental importance for them. Obviously, students cannot be strongly motivated and inspired when they get answers for the questions they have not asked and solutions for the problems they have not posed. On the contrary, when students define a standpoint for research on their own, they determine a peculiar circle of problems to overcome and ‘Why not?’ questions to answer. Only if learners pay attention and devote some time and mental energy to outline concretely the sphere of scientific problems, they would genuinely benefit from new knowledge and truly enrich their experience. That is why we believe good accurate questions in students’ works, whether theoretical research or practical task, should be valued as well as good well-founded answers.

Moreover, innovation activity is all about questioning and looking for hidden opportunities and unexpected solutions – it is all about ‘Why not?’. Gaps between human needs, especially unexpressed and non-evident ones, and existing facilities for its satisfaction present the most fruitful, promising field

of elaborating innovative ideas. What is highly important, the deeper and the more multi-fold problems are settled and the more refined creative solutions are found. To summarise, the innovative culture is, in the first place, the art of posing meaningful questions. As a consequence, encouraging students to ask many-sided questions related to the topic concerned is likely to be at the heart of learning approach promoting innovative culture.

The value of problem-solving ability is not only that it contributes to solve well-known problems but that it also enables us to discover problems we had not imagined so that it leads us to new horizons. That is why workshops devoted to solving cases remain one of the most relevant teaching methods and play a significant role in modern economic education, especially the innovation-orientated one. Case study is an active learning method through which students become exposed to diversity and complexity of decision-making contexts in business and learn sequential analysis in broad range of control settings. At the same time, the call for innovative thinking development causes the need to reconsider how we organise case-study learning.

To assure cognitive, interpersonal, and affective learning outcomes through case study method, it should be based on learning through active critical thinking, debates and valued peer-evaluation. The main thing is that case solutions should not be reduced to little more than an obvious algorithmic variable-handling exercise. Individual approach in posing a problem, revealing contradictions, emphasising certain details of innovative environment and foreseeing hidden resources should be valued during case-based education.

The crucial point of our approach to case studies is that students do not only fulfil a paper work for their lecturer to be assessed but they also elaborate an interactive learning task for their peers to be studied through teamwork. This approach adds to their motivation and even competitive excitement when they are enabled to become partly responsible for someone's educational process and mitigate innovative problems.

As to the practical accomplishment of this approach, it will include the following stages.

In the initial stage of case creation, students (let us call them 'the case-making group') find the main question providing an interesting context for investigation. Questions outlined for a future case should be flexible so that they are scaled and suitable to the different scientific interests. The case launch might range from several hours to a week and from particular minute question to complex problem in innovative sphere. At the end of this stage, lecturer should ensure that 'case-making' team has articulated clear expectations of the forthcoming case task to be worked out.

The second stage is divided into two parts: constructing the whole case and presenting it to the second group of students – 'case-solving group'. Creating an interactive task with a group of students may present one of the most efficient methods of building diversified knowledge in the lecture room. Students work together to produce background research, catch weak signs and solid evidence and provide rich case documentation, using various forms of text, audio, illustrations and graphs to share their results. They can add some pictures, diagrams and even videos to the case elaborated to amplify engagement. In this stage, they are supposed to be as concrete as possible when presenting case task and identifying the components of the decision that they want to target.

In the third-stage 'case-solving' groups of students elaborate the decision; construct hypothesis; define the necessary volume of data and available sources of information; fulfil in-depth analysis; confirm, correct, transform or disprove initial guess works; and form complete solution. Students have to be given the opportunity to reflect on their own contribution to innovative idea development with respect to weak signs they observe and background knowledge they have. They must identify what is known, what they observe, what they need to find out and ideas for solutions.

In the final stage, the 'case-solving' groups of students present their solutions in the form of a business presentation. The evaluation of case-solving results has to be planned carefully with regard to different types of criteria to apply and arrange evaluation discussions. These criteria need to be flexible enough to remain sensitive to the qualities and nuances of individual works and stable enough to guarantee that reliability of assessment is not to suffer. A truly complex and interesting solution obviously requires a period where students experiment with data, models and approaches without fear of incorrect answer.

That is why the value of this search should be taken into account along with the value of final outcomes. Thus, from our point of view, criteria of case solution assessment are expected to focus on depth of preliminary research, validity of solution, originality and variety of hypotheses involved, quality of economic models and methods and, finally, on how multi-purpose final solution is.

One possible practice is to organise discussion in the form of investment session – procedure during which investors estimate presented projects (innovative ideas and case solutions) as candidates for funding according to the range of criteria. The choice of limited number of criteria might itself be the subject of separate discussion. Defining and formulating criteria for many-sided assessment of innovative idea related to its value, originality, validity and purposefulness represent useful task involving critical thinking and illustrating the rich diversity of business conceptions.

Within the framework of discussion, students assess their own work as well and may evaluate their level of expertise and their interest in topics concerned. Revealing new skills, acquirements, experience and knowledge, they may precise their own dynamic learning path, which is, indeed, of value when talking about forming a diversified specialist in changing innovative economic system. Obviously, students need to have some foundational knowledge related to peculiar subject and rely on it whilst revealing the pattern and constructing a big picture of the investigated economic situation. At the same time, another part of foundational knowledge is supposed to develop during the case creation and case solving through workshops. Students have to combine existing ideas and methods in unexpected ways or apply them in areas they are not normally associated with. That implies a need for balance between the novelty of the problem topic and its connection to the material students are familiarised with.

Conclusions

Having chosen economics subjects, students look forward to familiarising with all social, cultural, technological and innovative aspects of modern business environment and acquiring the wide range of necessary skills related to innovative activity. The survey questionnaire presented in this article has confirmed this statement. This makes it rather puzzling that the educational system devotes only little effort to promote innovative culture and to provide opportunities for students to succeed in innovative business according to their talents and abilities. Given that the driving force of any change is human imagination, critical thinking and aspiration to novelty, educational system is supposed to promote innovative culture and creative approach to business tasks within economic subjects.

Functional and interactive skills (including cognitive and behavioural skills) needed to practice innovation activity in collaborative network are at the heart of innovative competence: questioning, observing, networking, experimenting and associational thinking. That is why cognitive, interpersonal and affective outcomes were established as key drivers for choosing teaching methods and conceptions that should have more room in the learning process.

Four conceptions for raising innovative competence within economic subjects that we defined as central to modern educational process – Developing Creativity, Focus on Faint Signs, Handling Mistakes and Questions versus Answers – are in fact intimately interrelated and may be regarded as an integrated approach that is aimed at developing flexible skills and innovating thinking. The creation of innovative solution is not accomplished by the calculation alone but by the intuitive search through successive interchange of boons and mistakes. At the same time, focus on faint signs provides new means for creative problem-solving and new forms of access to ideas, data and solutions. It is often through posing meaningful many-sided question that students get engaged in creative search especially when they are tasked with defining standpoint for research.

These interconnected conceptions should be integrated with case practices in a deep and meaningful way. We have presented one possible way of implementing new form of case-oriented practice. Students elaborate business cases for their peers in the form of investment session so that, during these educational experiences, they are getting used to value and use creativity in economic tasks as well as using business challenges as opportunities. The method presented in this article is currently being used within the course ‘Strategic management’ and it has already resulted in changing the attitudes. It is expected that improved learning skills and satisfaction will increase learning outcomes in long-term

outlook.

This method is easily applicable in different educational programmes, economic subjects and environments as well as different curriculum plans without significant financial resources, provided these tools are integrated with conventional teaching practices. There are no thematic or organisational limits to this approach, which ensures its scalability. Here it is possible to conclude that this approach to case-study learning shows considerable promise in terms of innovative thinking development.

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