A POSSIBLE MODEL FOR DEVELOPING STUDENTS' SKILLS WITHIN THE KNOWLEDGE-BASED ECONOMY

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Abstract
Nowadays the knowledge-based society and economy as well as the growing demands for highly skilled and educated people are elements that claim for the change of traditional teaching and learning processes in higher education. Therefore, this study explores how students' skills for the knowledge-based economy can practically be developed. The study disclosed a possible teaching and learning model based on multi-session approach that we have built and applied in order to develop students' creative and critical thinking skills. The model target group consisted in third year students, distance learning, Faculty of Management, Bucharest Academy of Economic Studies, based in Bucharest and Piatra Neamt territorial centres. The professor chose as subject the analysis of the statement "Renewable energy may help the development of the region you live in" in order to improve students' creative and critical thinking skills by identifying the logic connections between renewable energy and regional development. The teaching and learning activities have been divided into three sessions, in the end of the third session a questionnaire was used in order to reveal students' opinions regarding the usefulness of this original method of teaching and learning. Thus, this study also disclosed the results of using the model from students' point of view, derived from the analysis of empirical data collected during the class through personal observation and questionnaire. The findings of the study revealed that the model for developing students' skills we have proposed may be successfully applied, due to its strong emphasis on creativity and thinking, responding to students' needs within the knowledge-based economy and society.

Keywords: economic higher education, knowledge-based economy, students' skills, teaching and learning model, multi-session approach, regional testing

JEL classification: I23, A22, D83, R10

Introduction

The practices of education are profoundly changing nowadays by integrating new creative content and methods into the teaching and learning processes. Knowledge-based society and economy and the growing demands for highly skilled and educated people are elements

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that claim for the change of traditional teaching and learning processes. Modern students need to update their knowledge, skills and competences (Beleviciute and Sileikiene, 2006). Therefore, teachers should redesign their courses by adopting new educational methods and appropriate technologies to increase the higher education's relevance level to labour market and to knowledge-based society. A considerable amount of literature has been published on this subject (e.g. Beleviciute and Sileikiene, 2006; Dondon et al., 2008; Kimber et al., 2007; Milkova, 2008; Mitchell and Savill-Smith, 2004; Paladini and De Carvalho, 2008; Plumb and Zamfir, 2008; Prepeliță-Răileanu, 2008; Saarinen et al., 2008; Woo and Reeves, 2007; Zamfir, 2008 etc.). Nevertheless, there is no consensus in the literature regarding the sequence of activities and phases that may lead to students' skills development. Therefore, the aim of this study is to investigate how students' skills for the knowledge-based economy can practically be developed. These days, the manners students' can develop their skills are highly debated topics due to the requirements of the knowledge-based society and economy which focus more on the pragmatic and less on the theoretical knowledge.

The research was conducted using evidence provided by articles (such as research papers, conceptual papers, and literature reviews), books, as well as our personal experience in teaching Management and using modern teaching methods in order to develop the skills that students need for their future professional economic and/or managerial activities within the knowledge-based society and economy. In order to answer the research question we have revealed firstly the changes in educational practices within the knowledge-based economy, which are highlighting the need to develop new educational (teaching and learning) models and methods and students' skills and competences. Secondly, the study disclosed a possible teaching and learning model based on multi-session approach that we have built and applied in order to develop students' creative and critical thinking skills. Thirdly, we have emphasised the results of using the model for developing students' creative and critical thinking skills.

The study has illustrated that knowledge-based society and economy, along with their main features and requirements regarding people's competences and skills have a major influence on teaching and learning methods, requesting for a learning-oriented approach. Furthermore, the findings of this study revealed that the model for developing students' skills we have proposed may be successfully applied, having a strong emphasis on the creative knowledge and critical thinking and thus responding to students' needs within the knowledge-based economy and society.

Analyzing published sources, evaluating and interpreting the empirical data collected during the class through personal observation and questionnaire gave the answer to the research question.

1. Changes in educational practices within the knowledge-based economy

Higher education and implicitly educational services become very important in the knowledge-based economy context. There has been paradigm shift from the traditional perspective on education to the knowledge-based society one, which requires the increasing competitiveness of higher education systems (Nistoreanu et al., 2010). The knowledge workers and seekers mobility across the world has significantly increased, while the rapid spread of economic globalization has determined a deeper internationalization in higher education (Toma and Naruo, 2009). Therefore, there is a need for the universities to

regularly collaborate with other research institutions, private companies and public institutions, and participate in international research networks (Nistoreanu et al., 2010) in order to design better academic programs for the new generation of students.

Since knowledge is assessed throughout people's life (lifelong learning), people's awareness of the need for knowledge should be developed (educated), as well as their skills for the knowledge-based economy. The task of developing (educating) the student's need for knowledge is a challenging one because it implies changing the educational practices, its adjustment to new contexts within the knowledge-based society and economy. The generation of learners within the knowledge-based society is different from the preceding one within the industrial society, in the sense that some main cognitive style changes have been observed (Mitchell and Savill-Smith, 2004). For instance, the cognitive style of the students within the industrial society was characterized by moderate thinking and action speed, linear information processing, text and interpretation predominance, step-by-step information accessing, individual learning, technology as enemy. Nowadays, high thinking and action speed, parallel information processing, graphs and images predominance, random information accessing, interconnection and team work and "friendship" with technology are all changes in the cognitive style of modern students. These changes may be considered in the process of teaching and learning in order to stimulate learners' awareness, interest, and desire to know more and more and to induce them the feeling that they cannot survive as workers within the knowledge-based society without lifelong learning. Therefore, educational policies and practices should give emphasis to a lifelong learning perspective (Zamfir and Plumb, 2007). The main reason for this is that the spiral of knowledge everlastingly expands due to the application of knowledge to knowledge. Consequently, we may assume that if students are educated to apply knowledge to knowledge in the process of learning as well as in day-to-day life, then this process will became habitual, and their permanent need for knowledge will be encouraged and developed.

Learners growing up and working within the knowledge-based economy are far more experienced and able to process information rapidly than were their predecessors within the industrial society. Therefore, they may be bored and lose interest for continuous knowledge (learning) if their capacities are not exploited and properly stimulated in school, in the process of teaching and learning (Zamfir, 2008). However, it has been noted (Plumb and Zamfir, 2008) that to some extent curricula still tend to contain theoretical knowledge, which dominates practical learning and thus changes the educational practices. In this context, applying a learning-oriented approach is a must.

The learning-oriented approach has to consider the cognitive style of the learners within the knowledge-based economy. They are intensely using new technologies such as computers, internet, cell phones, simulations and computer games (Mansour and El-Said, 2008). Moreover, the generation of students within the knowledge-based society find modern technology very useful when they search for things of their own interest (Milkova, 2008). As a result, the traditional teaching methods no longer match the current student's needs and behaviour. As teachers cannot change students, the best way is to adjust their pedagogical approach to the students and to create new learning environments supported by artificial intelligence (Prepelita-Raileanu, 2008; Dondon et al., 2008; Paladini and De Carvalho, 2008; Saarinen et al., 2008). These learning environments facilitated by the development of information and communication technology add value when compared to

traditional learning environments, and also respond to the learning needs of XXI century students (Saarinen et al., 2008). The impact of technology is very strong in education having in mind for instance the fact that the e-learning phenomenon had a spectacular evolution in recent years (Stoica and Ghilic-Micu, 2009).

Practically, based on our personal experience as teachers, we can assert that having in mind the elements which define the cognitive style of students within the knowledge-based society one can educate the students' need for knowledge through various means, such as: (1) assignment of team tasks; (2) appeal to the students' imagination; (3) practising open (free) discussions; (4) avoiding answers to some questions, etc. With regard to team tasks, instead of individual tasks, these stimulate knowledge sharing and as a result, students may ask themselves new questions starting from the ideas and knowledge shared. Trying to answer these questions in order to solve the team task will require searching the literature, making logical connections, discussing and identifying new aspects of the subject they are studying. As well, when teachers avoid answering to some of the questions posed by the students, the latter will be interested to find it themselves. Appealing to the students' imagination by asking them to imagine different situations, cases or solutions to the problems may contribute to educating their need for knowledge because afterwards they might be interested to know if their imagined solutions were or not discussed in the literature, applied in practice, or if it can actually be applied in the future and how.

Living, learning and working within the knowledge-based society and economy requires specific skills, emphasizing on creativity and innovation, as well as on communication and collaboration. Students should be able to demonstrate creative thinking, to construct knowledge as a means of individual or group expression, to use models and simulations to explore complex systems and issues, to interact and collaborate using a variety of digital environments and media in order to support individual learning and contribute to the learning of others (ISTE, 2007). Technologies that support teacher-student and student-student interaction, whether real time or asynchronous, promote and support collaboration and discussion (Yoder, 2008). People have now more diverse and frequent interaction opportunities than they have ever experienced before, due to the development of the Internet and its communication possibilities such as E-mail, Chat, Web discussion forums, etc. (Woo and Reeves, 2007). This fact could lead to a better teaching-learning process and also to the creation of new and attractive methods for teaching and learning. Educational process could be improved with communication tools that provide synchronous and asynchronous opportunities for interaction and collaboration. Blogs, podcasts, real time interaction, and virtual worlds could be incorporated in education to create a learning environment that strengthens teaching and motivates learners (Yoder, 2008) so as to gain the skills needed within the knowledge-based economy.

In the last few years, there has been a growing understanding of the important role of information and communication technologies in education. Various new models of education are evolving in response to the new opportunities that are becoming available by integrating new technologies and computer applications into the process of teaching and learning. The new educational model is characterized by the interdependence of communicative interaction, new technologies, the development of computer applications, the design of computer-based tasks and focused activity for learners to become critical thinkers and creators of knowledge. When students are encouraged to externalize their mental schemas and clearly communicate their understanding of the interconnectedness of

ideas verbally and graphically, then student-designers are effectively engaged in productive, reflective, creative practices (Kimber et al., 2007).

2. A possible model for developing students' skills for the knowledge-based economy

In this part of the study we will emphasize how students' skills for the knowledge-based economy can practically be developed. Thus we will describe a possible teaching and learning model based on multi-session approach that we have built and applied in order to develop students' creative and critical thinking skills.

The model is based on a multi-session approach in which the first working session is dedicated to developing students' creative thinking skills, the second working session is dedicated to developing students' critical thinking skills, and the next working sessions may reiterate the whole process. The creative and critical skills teaching and learning model is illustrated in Figure no. 1 and Figure no. 2. Furthermore, the phases, activities, resources, types of interaction, and outcomes of the first two sessions are illustrated in Table no. 1 and Table no. 2.

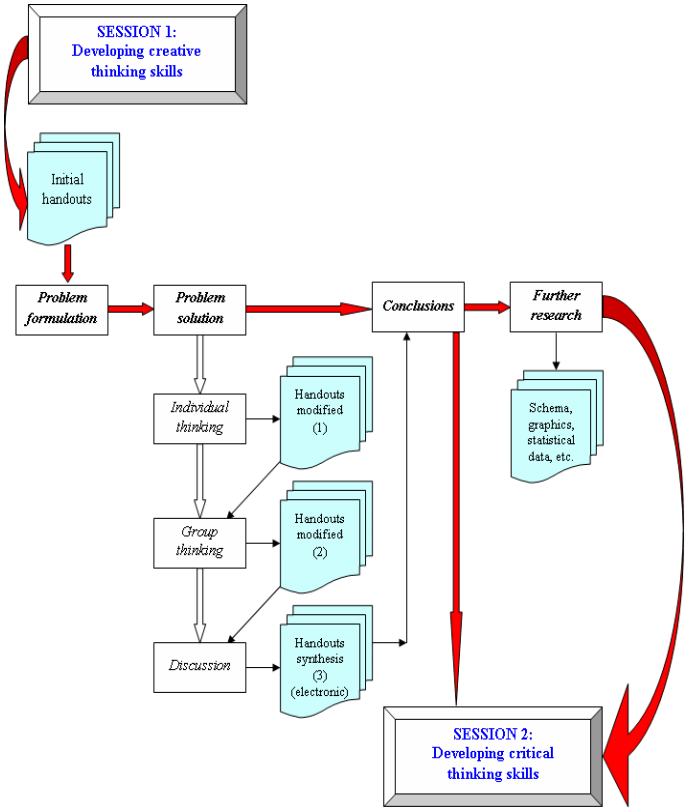

Figure no. 1: Students' skills development model (1)

Source: Zamfir 2010, p. 136

Table no. 1: Resources, types of interaction and outcomes in session 1

PHASE	ACTIVITY	RESOURCES (INPUTS)	TYPE OF INTERACTION	OUTCOMES (OUTPUTS)
1.1.	**Problem formulation**	Computer Video projector Initial handouts provided by the teacher	T → Ss	-
1.2.	**Problem solution**			
1.2.1.	*Individual thinking*	Initial handouts	-	Handouts modified (1)
1.2.2.	*Group thinking*	Handouts modified (1)	Ss → Ss T → Ss → T → Ss	Handouts modified (2)
1.2.3.	*Discussion*	Handouts modified (2) Computer	Ss → T → C → Ss	Handouts synthesis (3) (electronic)
1.3.	**Conclusions**	-	T → Ss	-
1.4.	**Further research (homework)**	Handouts synthesis (3) Web pages, books, articles, reports, etc.	T → C → Ss Ss → C → T	Schema, graphics, statistical data, PowerPoint presentations, Excel worksheets, etc.

Legend: Ss – Students; T – Teacher; C – Computer

This possible model for developing students' creative problem solving skills and critical thinking skills can be described as follows:

SESSION 1: Developing students' creative thinking skills

- *Problem formulation.* The teacher introduces the subject for discussion to the students, asking them to use their creativity in order to find solutions to the problem. The teacher also explains to the students that it is not important to think if their solutions and ideas are feasible or not, but the important thing is only to generate ideas and solutions. It is an invitation to dreaming, to imagining things, not to reasoning. The teacher gives the specific instructions to the students: first individually (for 2 minutes), then in 4-5 teams (for 5 minutes) they will think about creative solutions.
- *Problem solution:*
  - *Individual thinking.* Each student thinks about the problem and write-down his/her ideas.
  - *Group thinking.* The 4-5 groups (teams) share and write-down their ideas. In the mean time, the teacher supervises the groups and possibly gives supplementary explanations to help the students.
  - *Discussion.* The teacher asks the students to tell him/her their ideas for solving the problem and he/she introduces it into the computer. The teacher and the students

communicate and cooperate in order to combine ideas in different ways. Also, they choose a single idea which they most like.

- *Conclusions of the session 1.* The teacher will draw conclusions at the end of the activity (will provide feedback about the creativity of the students). This doesn't mean that the teacher will say something like: "the right answer to this problem is ….."!
- *Further research (homework).* The teacher will ask the students: (1) to consider the ideas generated together, to try to (re)combine them and to send their handouts to her/him by E-mail; (2) to try to find evidence related to the chosen idea; and (3) to share the evidence they found. The teacher will send to the students by E-mail the synthesis of the ideas generated into the classroom, reminding them the chosen idea for next discussion and will try to find evidence related to this idea (Was it discussed before? Are there experiments related to it made? etc.).

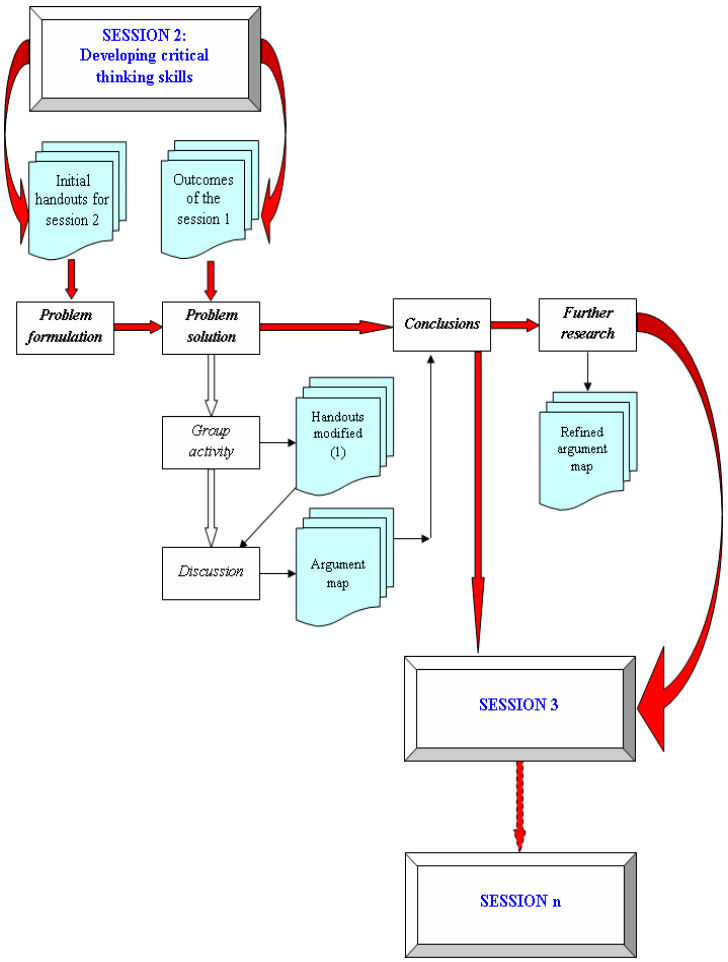

Figure no. 2: Students' skills development model (2)

Source: Zamfir, 2010, p. 137

Table no. 2: Resources, types of interaction and outcomes in session 2

PHASE	ACTIVITY	RESOURCES (INPUTS)	TYPE OF INTERACTION	OUTCOMES (OUTPUTS)
2.1.	**Problem formulation**	Computer Video projector Outcomes of the session 1 and after session 1 Initial handouts for session 2.	T → Ss	-
2.2.	**Problem solution**			
2.2.1.	*Group activity*	Initial outcomes, handouts	Ss → Ss T → Ss → T → Ss	Handouts modified (1)
2.2.2.	*Discussion*	Handouts modified (1)	Ss → T → C → Ss	Argument map
2.3.	**Conclusions**	-	T → Ss	-
2.4.	**Further research (homework)**	Argument map	T → Ss Ss → T	Refined argument map

Legend: Ss – Students; T – Teacher; C – Computer

SESSION 2: Developing students' critical thinking skills

- *Problem formulation.* The teacher reminds to the students what the idea they chose in the previous session was and explains to the students that they will try to analyze it in order to improve their critical thinking skills. This means that they will identify the premises, the arguments and counter-arguments and together will draw the argument map and will evaluate the logical strengths of arguments.
- *Problem solution:*
  - *Group activity.* The groups think about the problem and write-down their ideas. In the mean time, the teacher supervises the groups and possibly gives supplementary explanations to help the students.
  - *Discussion.* The teacher asks the students to tell him/her the premises, arguments and counter-arguments they found and he/she draws the argument map using the computer. The teacher discuss with the students about the relevance of the arguments and counter-arguments.
- *Conclusions of the session 2.* The teacher will draw conclusions at the end of the activity (will provide feedback) and will send the argument map to the students by E-mail.
- *Further research (homework).* Argument map refining both by teacher and students and further virtual collaboration for developing new ideas.

The above mentioned listings are neither exclusive nor exhaustive and are drawn from our personal experience as teachers. A successful classroom experience can only be attained if both teacher and students work together, and if the teacher acts as a facilitator for the students' skills development.

3. Results of using the model for developing students' creative and critical thinking skills

In this section of the study the results of using the model from students' point of view are presented. These results derived from the analysis of the empirical data collected during the class through personal observation and questionnaire. The model target group consisted in third year students, distance learning, Faculty of Management, Bucharest Academy of Economic Studies, based in Bucharest and Piatra Neamt territorial centres.

The professor chose as subject the analysis of the statement "Renewable energy may help the development of the region you live in" in order to improve students' creative and critical thinking skills. The students have identified the premises, the arguments and counter-arguments and together with the teacher have drawn the argument map and have evaluated the logical strengths of arguments. In this particular case the activities have been divided in three sessions: (1) firstly, each group of students from Bucharest and Piatra Neamt have drawn an argument map and have refined it; (2) secondly, the teacher has presented to the students the map drawn by their colleagues from the other city and based on this, new ideas were generated; and (3) thirdly, a common argument map resulted from the mixture of the two argument maps designed by the students from Bucharest and Piatra Neamt (Figure no. 3).

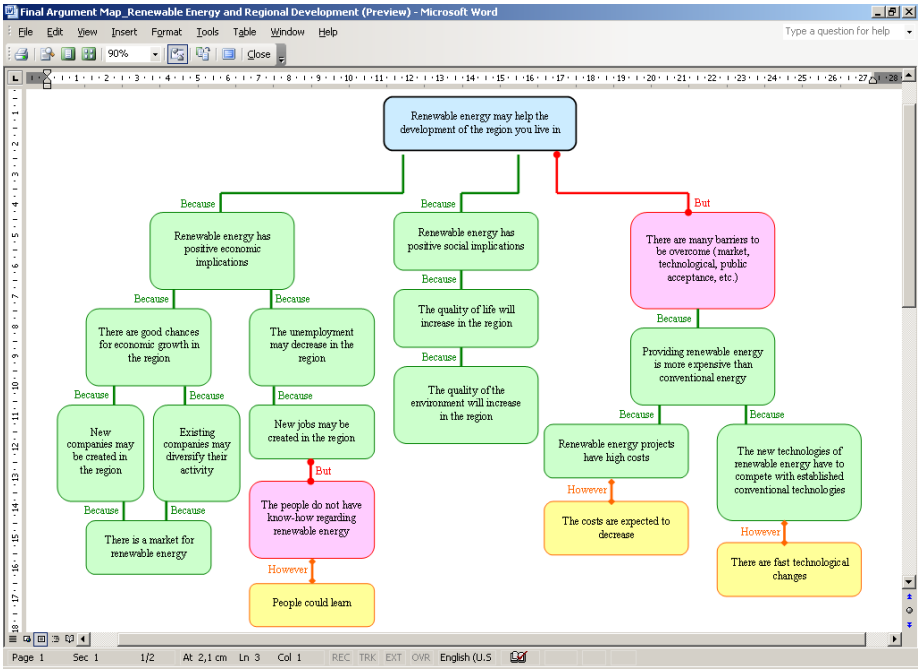

Figure no. 3: Example of an argument map regarding renewable energy and regional development resulted from class activity

In the end of the third session a questionnaire was used in order to reveal students' opinions regarding the didactic activity that has been done. The questionnaire used was construed based on a five-level Likert scale. It had a scale of increasing intensity where 1 indicates

strongly disagree (very badly) and 5 designates strongly agree (very good). The questions used to find out students' opinions about the didactic activity they have been completed are listed below:

- Is this type of class activity easy to be done (accomplished)?
- Is this type of activity useful to you in the process of learning?
- Has this activity improved your communication skills?
- Has this activity improved your teamwork skills?
- Has this activity improved your creative thinking skills?
- Has this activity improved your critical thinking skills?
- To what extent the Internet helped you to accomplish this activity?
- To what extent have you used E-mail to communicate with your teacher and/or with your colleagues?
- To what extent have you been motivated to learn more about the subject discussed?
- Have you enjoyed this activity?

The questionnaire was applied in the period of November 27 2010 – December 17 2010. The sampling method was random and 158 students participated in the research. The information collection process was realized at a rate of about 55% students based in Piatra Neamt territorial centre, and 45% students based in Bucharest territorial centre. This situation is currently in line with territorial centre repartition of third year students, distance learning, Faculty of Management. The research adequately reflects distance learning students' territorial centre distribution, Faculty of Management, Bucharest Academy of Economic Studies in statistical terms.

The information collected was processed using Microsoft Excel 2003, both for centralizing and analyzing data.

The average values (scores) of the responses of students from the two territorial centres regarding the class activity for each question are presented in Table no. 3 and compared in Figure no. 4.

According to the performed study, the students from Bucharest obtained a total average score of 4.34, which represents a high degree of agreement, meaning that they appreciated as favourable this type of class activity. As for the students from Piatra Neamt, the situation is not as good as for the students from Bucharest, and the average score obtained is of 4.07.

Regarding the first question "Is this type of class activity easy to be done (accomplished)?" the average scores obtained were 4.23 for the students from Bucharest and 4.52 for the ones from Piatra Neamt. These scores indicate that both students from Bucharest and Piatra Neamt appreciate as "good" the degree of simplicity. Furthermore, as regards the second question "Is this type of activity useful to you in the process of learning?" the average scores obtained were 3.77 for the students from Bucharest (indicating a degree of utility from "indifferent" to "good") and 4.71 for the students from Piatra Neamt (indicating a degree of utility from "good" to "very good"). These results may be corroborated with the scores obtained for the tenth question "Have you enjoyed this activity?" (4.54 obtained for the students from Bucharest and 4.76 for the students from Piatra Neamt), indicating that if the students are enjoying the activity, they appreciate that it is easy to be accomplished and is also useful.

Table no. 3: Average scores obtained

No	Question	Average scores	
		Bucharest	**Piatra Neamt**
1.	Is this type of class activity easy to be done (accomplished)?	4.23	4.52
2.	Is this type of activity useful to you in the process of learning?	3.77	4.71
3.	Has this activity improved your communication skills?	4.28	4.26
4.	Has this activity improved your teamwork skills?	4.17	4.23
5.	Has this activity improved your creative thinking skills?	3.98	3.86
6.	Has this activity improved your critical thinking skills?	4.54	4.47
7.	To what extent the Internet helped you to accomplish this activity?	4.82	2.93
8.	To what extent have you used E-mail to communicate with your teacher and/or with your colleagues?	4.79	2.85
9.	To what extent have you been motivated to learn more about the subject discussed?	4.27	4.11
10.	Have you enjoyed this activity?	4.54	4.76
Total average score		**4.34**	**4.07**

The third, fourth, fifth and sixth questions are referring to the degree of skills improvement. To the third question "Has this activity improved your communication skills?" the students from both cities have obtained very similar average scores (the students from Bucharest obtained an average score of 4.28, while those from Piatra Neamt obtained an average score of 4.26). For the fourth question "Has this activity improved your teamwork skills?" the average scores obtained were 4.17 for the students from Bucharest and 4.23 for the students from Piatra Neamt. To the fifth question "Has this activity improved your creative thinking skills?" the students from Bucharest obtained an average score of 3.98 and those from Piatra Neamt obtained an average score of 3.86, meaning a degree of creative skills improvement almost "good". As for the sixth question "Has this activity improved your critical thinking skills?" the average scores obtained were 4.54 for the students from Bucharest and 4.47 for the students from Piatra Neamt, indicating a degree of critical thinking skills improvement from "good" to "very good".

The average scores obtained for the seventh and eighth questions are very much correlated. To the seventh question "To what extent the Internet helped you to accomplish this activity?" the students from Bucharest obtained an average score of 4.82, while those from Piatra Neamt obtained an average score of only 2.93. As for the eighth question "To what extent have you used E-mail to communicate with your teacher and/or with your colleagues?" the average scores obtained were 4.79 in case of students from Bucharest and 2.85 in case of students from Piatra Neamt. The explanation for this situation (high scores for the students from Bucharest and low scores for those from Piatra Neamt) is that the

majority of students from Bucharest have Internet connexion at home, while most students from Piatra Neamt have Internet connexion only at their work place or they have no Internet connexion.

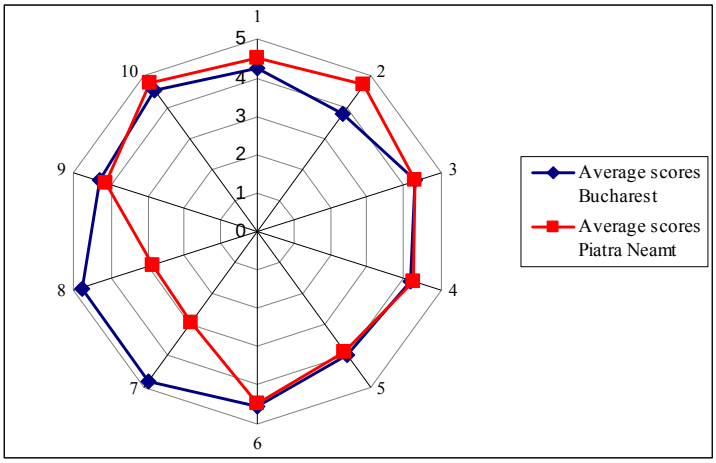

Figure no. 4: Average scores of the responses

To the ninth question "To what extent have you been motivated to learn more about the subject discussed?" the students from Bucharest obtained an average score of 4.27 and those from Piatra Neamt of 4.11, indicating a good degree of students' motivation to learn more.

Generally, while the average scores obtained by the students from Bucharest vary between 3.77 (for the question "Is this type of activity useful to you in the process of learning?") and 4.82 (for the question "To what extent the Internet helped you to accomplish this activity?"), the scores for those from Piatra Neamt have a range between 2.85 (for the question "To what extent have you used E-mail to communicate with your teacher and/or with your colleagues?") and 4.76 (for the question "Have you enjoyed this activity?").

Conclusions and further research

The knowledge-based society and economy as well as the growing demands for highly skilled and educated people are elements that claim for the change of traditional teaching and learning processes in economic higher education. Therefore, teachers should redesign their courses by adopting new educational methods and appropriate technologies to increase the higher education's relevance level to labour market and to knowledge-based society.

Nowadays, the manners students' skills may be developed are highly debated topics due to the requirements of the knowledge-based society and economy which focus more on the pragmatic and less on the theoretical knowledge. In this respect, we have described in this study a possible teaching and learning model based on multi-session approach that we have built and applied in order to develop students' creative and critical thinking skills. The originality and value of this model consist of proposing a new approach of class activities and homework with the aim of developing students' both creative and critical thinking skills. This multi-session approach reflects the basic interrelation within the knowledge-

based society, namely the interrelation between knowledge, people and networks. In addition, we have emphasised in this study the results of using the model from students' point of view, derived from the analysis of empirical data collected during the class through personal observation and questionnaire.

The study has illustrated that the knowledge-based society and economy, along with their main features and requirements regarding people's competences and skills, have a major influence on teaching and learning methods in the sense that a learning-oriented approach is needed now maybe more than ever. Based on the analysis of the empirical data we have collected during the class activity we can conclude that: (1) the model supports teamwork as well as individual thinking and learning; (2) it could be used to produce class experiences which support collaborative learning; (3) using the model seems highly motivating and makes the class activity enjoyable for students; (4) using the model enhances the teaching and is more attractive for the students as compared to the traditional teaching and learning processes; and (5) using the model lead to the development of students' skills such as communication, teamwork, creative and critical thinking.

Furthermore, this study has revealed that the model for developing students' skills we have proposed may be successfully applied, having a strong emphasis on the applicability of most disciplines and on students' creativity and critical thinking and thus responding to students' needs within the knowledge-based economy and society.

One may argue that the students' skills development model was not thoroughly described so as to reflect the teaching and learning process specific for higher education within the knowledge-based society. There is no doubt that this model requires further development. However, since teaching-learning processes are too complex to be exhaustively described, and moreover their complexity increases every day, a proper understanding of the iterative processes and activities becomes particularly important. The model provides an original framework for understanding the possible relations among different phases of the teaching and learning process aimed to develop students' skills within the knowledge-based economy and society in which knowledge, people and networks are likely to play a leading role.

Our contemporary experience advises us that there is no panacea for a teaching-learning activity's success in the knowledge-based economy and society. The time and place of the class activity, the subject chose for discussion by the teacher, the level of information regarding the subject, students' and teacher's health, etc. - are all elements that may influence the teaching-learning process and the development of students' skills. Thus we assume that the model proposed here may be adapted to eliminate some of the variables (phases, activities, resources, types of interaction, and outcomes) or, on the contrary, to include other elements too, depending on the real context of the teaching-learning process. Therefore, we suggest that further research should be done in this direction in order to identify specific aspects of developing students' skills for different contexts of the teaching-learning processes.

Another direction for future research could be to test this model in various universities from different regions in order to find out how local culture may influence the knowledge transfer and people collaboration through networks and which are the effects of local culture (if any) on students' skills development within the knowledge-based economy and society.

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