

Enhancing University Students' Critical Thinking via Teaching Economics-Related Disciplines

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Abstract: The twenty-first century introduces new demands to the higher education. It goes without saying that students should be professional and competitive at labour market. With information on the rise globally, each profession embraces various information-related skills and competencies. Thus, critical thinking plays an important role in the educational process. The study examines the role of critical thinking and the possibilities of economics-related disciplines in enhancing university students' critical thinking. As there is a variety of definitions and understandings of critical thinking, the author introduces the concept of critical thinking, based on different approaches, defines critical thinking and skills it includes. The author conducted a survey covering students of economics from Russian universities. The aim of the survey was to find out university bachelor students' perceptions of critical thinking and their evaluation of critical thinking development in courses of disciplines. For this purpose, the author used two questionnaires. The participation in the questionnaires was anonymous and voluntary. Comparative analysis method was applied to analyse the results. The findings support the hypothesis to encourage students' critical thinking not only special critical thinking courses are important, but other disciplines as well. Teaching critical thinking along with professional skills (via economics-related disciplines) may give a significant educational result. To stimulate students' critical thinking, more attention should be paid to active teaching methods (discussions, case studies, simulations, projects, team-work, Internet based assignments, problem solving). The aim of the study is to discover the possibilities of enhancing students' critical thinking via different methods of teaching economics-related disciplines.

Keywords: critical thinking, cognitive skills, soft skills, education process, economics-related disciplines.

Introduction

Information society, knowledge economy and technological change have strongly transformed the labour market and modified basic demands to the higher education. New hires fresh from universities often fail to comply with the labour market requirements. One of the major tasks of modern education is to prepare students for their future professional and social life, to give them necessary employability skills which may help them to adopt in this changing world and to be successful at their workplaces. Universities usually concentrate on professional skills, but employability skills include not only professional skills but soft skills as well. According to L. Raitskaya, E. Tikhonova and M. Balykhin soft skills cover: (1) social skills (communication skills, interpersonal skills, team work, leadership, social intelligence, responsibility, ethic and courtesy); (2) cognitive skills (critical thinking, problem solving, novelty thinking, cognitive load management, learning skills, information skills, self-management); (3) personality (i.e. personal attributes and qualities), and emotional intelligence (emotional intelligence, integrity, optimism, flexibility, creativity, motivation, empathy) (Raitskaya, Tikhonova, Balykhin, 2018).

Thus, critical thinking forms an integral part of cognitive skills and soft skills on the whole. Information loads and low quality of the information sometimes make the process of decision taking very complicated. Critical thinking skills help the students not only to absorb information more rapidly and effectively but also make them able to use it in the most efficient way.

The concept of critical thinking has been the subject of research and discussion for years. Early works on critical thinking generally focused on the definitions (Dewey, 1933; Ennis, 1962). The concept of critical thinking gained much interest in 1980s (Brookfield, 1987; Lipman, 1988) and later on (Facione, 1990; Menssen, 1993). But the understanding of critical thinking is still bizarre. One of the first definitions is that by J. Dewey (Dewey, 1933, 118) who looked upon it as "active persistent and careful consideration of a belief or supposed form of knowledge in light of the grounds that support it, and the further conclusions to which it tends." R.F. Saade, D. Morin and J.D. Thomas determine it as a process: "critical thinking is the process of analysis, valuation, interference, and interpretation of resources and activities"

(Saade, Morin, Thomas, 2012, 1609). R. Paul considers it as: “the ability and disposition to critically evaluate beliefs, their underlying assumptions, and the worldviews in which they are embedded (Paul, 1995, 46). The Center for Critical Thinking defines it as follows: “Critical thinking is the intellectually disciplines process of actively and skilfully conceptualizing, applying, analysing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action” (Saade, Morin, Thomas, 2012, 1609).

Reviewing these various definitions, considerations and conditions, one can conclude that the debate still continues. In this article short and simple definitions of critical thinking are preferred, such as by S. Novella (Novella, 2012, 10): “Applying systematic logic and doubt to any claim or belief; thinking carefully and rigorously”. In this article, we suggest that we should stick to this very definition.

Besides the definition of critical thinking itself the debate concerns the core skills included in critical thinking. R.H. Ennis (Ennis, 1987) focused on the ability to reflect sceptically and the ability to think in a reasoned way. S. Cottrell (Cottrell, 2005, 4) points out that critical thinking involve the development of a range of ancillary skills (observation, analysis, reasoning, judgement, decision-making, persuasion). K. Larsson asks “Is critical thinking just a set of skills or does it have dispositional aspects as well? Is creativity an important element or not and should emotions, intuition and societal change be brought into the definition?” (Larsson, 2017, 32). One of the strongest authorities in the field P. Facione (Facione, 1990), taking into consideration the results of The Delphi Report, determined the basic critical-thinking skills as follows: analysis, interpretation, self-regulation, inference, explanation, evaluation. Later special attention was paid to three core skills: analysis, inference, evaluation, since they were strongly positively correlated: analysis and inference ($r=.36, p<.001$), analysis and evaluation ($r=.40, p<.001$), evaluation and inference ($r=.48, p<.001$) (Dwyer, Hogan, Stewart, 2014, 47).

There is still certain debate if critical thinking must be taught through a critical thinking course focused generally on critical thinking (Royalty, 1995) or it may be taught in other courses focused on some professional skills (Cargas, Williams, Rosenberg, 2017). The author doesn't deny the importance of special critical thinking courses, but critical thinking must be also developed via other disciplines. Teaching critical thinking along with professional skills has a significant educational result.

The purpose of this paper is to draw attention to the critical thinking within the soft skills framework as an important part of education process in teaching economics-related disciplines. Both traditional teaching methods and innovative teaching methods may be implemented to enhance students' critical thinking, but there should be enough space for students' active involvement in the process. So, more attention should be paid to interactive components in learning courses (discussions, case studies, simulations (Bell, Loon, 2015), projects, team-work, Internet based assignments, problem solving). Individual characteristics and external factors may to some extent influence the use of critical thinking skills. D. Kahneman shows many cases of irrational thinking and behavior (Kahneman, 2011). So, the students must be taught to think critically in complicated situations.

Taking into consideration the scarcity of publications on critical thinking in teaching economic-related disciplines, this research provides the following contributions. At a micro level it determines the best methods and forms that can be implemented to stimulate critical thinking via teaching economic-related disciplines. At a macro level, it suggests new approaches in the sphere of higher education.

The author aims to consider the above said problems and set the following research questions:

- what are the bachelor students' perceptions of critical thinking?
- what teaching/learning activities in economics-related disciplines contribute most to fostering students' critical thinking skills?

Methodology

Two questionnaires to find out the perceptions of critical thinking and evaluation of critical thinking development in courses by university bachelor students were worked out. Comparative analysis method was applied to analyse the results.

Participants. 142 university bachelor students participated in questionnaires on perceptions of critical thinking and evaluation of critical thinking development in courses by university students in Russia,

including 85 female students (59.9 %) and 57 male students (40.1 %) aged 18-21 years old. All students study at universities in Russia.

Materials

(1) The reviewed literature included studies containing definitions of critical thinking and classifications of critical thinking skills that were carried out and published in scientific journals since the 1930s. All articles are indexed with Scopus or Web of Science databases.

(2) Two questionnaires were worked out and included the following questions.

Questionnaire 1: Students' Perceptions of Critical Thinking.

Question 1 What is critical thinking?

Question 2 What is critical thinking aimed at?

Question 3 What strong points do you see in developed critical thinking?

Question 4 When do you require critical thinking most?

Situations:

- everyday situations;
- studies/education;
- career;
- decision-making;
- information search;
- others.

Multiple answers are possible.

Question 5 *Which of the following skills and attributes are part of critical thinking:*

- skill of analysis;
- attribute of integrity;
- skill of team work;
- skill of interpretation;
- skill of self-regulation;
- skill of motivation;
- skill of inference;
- skill of explanation;
- attribute of empathy;
- skill of evaluation?

Multiple answers are possible.

Questionnaire 2: Students' Evaluation of Critical Thinking Development in Courses.

Question 1 *Which courses contribute to critical thinking most:*

- microeconomics;
- macroeconomics;
- applied economics;
- history of world & national economics;
- financial economics?

Multiple answers are possible.

Question 2 *Which of the learning activities do you think contribute more to fostering critical thinking skills:*

- cases;
- problem-solving;
- lectures;
- reading for seminars and exams;
- brainstorming;
- others?

Multiple answers are possible.

Question 3 *Which of your skills do you think were notably improved:*

- skill of analysis;
- skill of interpretation;
- skill of self-regulation;

- skill of inference;
- skill of explanation;
- skill of evaluation?

Multiple answers are possible.

Procedure included a self-selected convenience sampling of students in partner universities. Participation in the questionnaires was anonymous and voluntary.

Results and Discussion

The replies of the students show the following.

Questionnaire 1: Students' Perceptions of Critical Thinking.

Question 1 (*What is critical thinking?*) had different answers. Ninety-two students (64.8 %) gave various definitions which may broadly be classified as:

- (1) 43 students (30.3 %) defined it as skills pertaining to information valuation and analysis;
- (2) 16 students (11.3 %) as skills (filters) to sift information for various purposes;
- (3) 15 students (10.6 %) as abilities connected with processing information or/and knowledge;
- (4) 9 students (6.3 %) as skills necessary to build up knowledge and competencies;
- (5) 9 students (6.3 %) as information skills.

Others' replies did not exceed 2-3. They included such statements and definitions as skills of analysis (3 students, 2.1 %); skills and attributes relating to new information (2 students, 1.4 %); skills connected with decision-making (2 students, 1.4 %); cognitive skills (3 students, 2.1 %) and others. 7 students (4.9 %) wrote in answer to this question 'no idea'.

Question 2 (*What is critical thinking aimed at?*) brought the following spread of answers:

- (1) information evaluation (68 students, 47.9 %);
- (2) knowledge formation (13 students, 9.2 %);
- (3) analysis of information (24 students, 16.9 %).

As many as 12 students (8.5 %) considered critical thinking as evaluative (or other synonyms) thinking.

Question 3 (*What strong points do you see in developed critical thinking?*) gave three groups of replies prevailed:

- (1) success in career and job promotion (41 student, 28.9 %);
- (2) fostering other professional competencies (32 students, 22.5 %);
- (3) the most efficient/necessary/essential educational skill (25 students, 17.6 %).

Among other variants were found those connected with information processing, evaluation, knowledge building (12 students, 8.45 %).

Question 4 (*When do you require critical thinking most?*) brought the following answers: everyday situations (46 students), studies/education (81 student), career (95 students), decision-making (89 students), information search (41 student). Thus, most popular answers covered career (95 students), decision-making (89 students). In addition, the students gave random answers including analytics; learning new information; evaluation of information.

Question 5 (*Which of the following are critical thinking skills?*) gave the following answers: skill of analysis (138 students), attribute of integrity (21 students), skill of team work (32 students), skill of interpretation (98 students), skill of self-regulation (78 students), skill of motivation (43 students), skill of inference (123 students), attribute of explanation (108 students), attribute of empathy (8 students), skill of evaluation (126 students).

Questionnaire 2: Students' Evaluation of Critical Thinking Development in Courses.

Question 1 (*Which courses contribute to critical thinking most?*) showed the dominance of macroeconomics (138 students) and applied economics (131 student), followed by microeconomics (114 students), financial economics (119 students) and history of world and national economics (65 students).

Question 2 (*Which of the learning activities do you think contribute more to fostering critical thinking skills?*) gave the following results: cases (110 students), problem-solving (118 students), lectures (78

students), reading for seminars and exams (86 students), brainstorming (101 student). Among other answers (14 students) there are writing on professional themes in the courses of economics related disciplines (essays, analysis, thesis), searching for information on the Internet.

Question 3 (*Which of your skills do you think were notably improved?*) brought the answers: skill of analysis (132 students), skill of interpretation (90 students), skill of self-regulation (84 students), skill of inference (103 students), skill of explanation (110 students), skill of evaluation (139 students).

Conclusions

With the employment of designed questionnaires and computer-based tests, this study explored students' perceptions of critical thinking and students' valuation of critical thinking development in courses.

The author concludes that in spite of broad variety of definitions the students tended to define critical thinking as skills pertaining to information valuation and analysis. They expect them to contribute to success in career and job promotion, to foster other professional competencies and to be the most essential educational skill. They require critical thinking in everyday situations, education, career, decision-making, information search. The students look upon skill of analysis, skill of evaluation, skill of inference, attribute of explanation, skill of interpretation as typical critical thinking skills.

Macroeconomics, applied economics, and microeconomics were singled out as economic disciplines which contribute most in nurturing students' critical thinking skills. Among learning activities contributing to fostering critical thinking skills the students mentioned problem-solving, cases, brainstorming, and reading for seminars and exams, lectures. They also consider skill of evaluation, skill of analysis and skill of explanation to be notably improved.

It was proved that critical thinking is one of the most important educational goals. Skills of critical thinking are necessary for the careers' students are being prepared for. The main goal of teaching economics-related disciplines is to enhance students' critical thinking via more interactive components in courses, and more active learning methods such as problem-solving, case studies, brainstorming, discussions.

The teaching community is just beginning to take cognizance of the necessity of enhancing university students' critical thinking via teaching economics related disciplines and much work ahead. More studies are strongly desirable in this scope, focusing on diverse aspects of the problem field.

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