DOI: 10.21277/sw.v1i9.460

WHAT CRITICAL THINKING AND FOR WHAT?

Valdonė Indrašienė, Violeta Jegelevičienė,
Odeta Merfeldaitė, Daiva Penkauskienė, Jolanta Pivorienė,
Asta Railienė, Justinas Sadauskas, Natalija Valavičienė
Mykolas Romeris University, Lithuania

Abstract

The article discusses the construction of the critical thinking concept in higher education and its change in scientific publications between 1993 and 2017. Based on a systematic literature review, the following research questions are raised: *how does construction of critical thinking concept change in the context of higher education during time? How are personal, interpersonal, and social aspects expressed in the concept of critical thinking in the context of higher education?* The systematic literature review revealed a significant growth of publications starting from 1998. A slight change in treating critical thinking as a purely general or domain-specific competence is also disclosed. The authors of the researched articles do not make a clear division between critical thinking as a general competence and as a domain-specific competence. Researchers in different fields tend to associate critical thinking with the development of the person's cognitive and intellectual capacities, including skills and attitudes. However, some authors also reveal the interpersonal and social aspects of critical thinking. Alas, there are not so many publications in favour of such comprehensive approach. Nevertheless, there is still some hope that critical thinking will be treated and nurtured as personal, interpersonal and social competence.

Keywords: *critical thinking, higher education, social welfare, a systematic literature review.*

Introduction

Higher education plays an important role in enhancing personal development and social progress, it promotes innovation-based research thus making a considerable contribution to educating highly-qualified employees needed for knowledge-based economic growth and ensuring prosperity (Walker, 2015; European higher education in the world, 2013). However, higher education brings not only economic benefits, but also forms a sustainable and civic society (Pillay, 2011). Researches (Barnett, 2013; Biesta, 2014) suggest rethinking the mission of higher education which now is defined too narrowly: to provide knowledge and to develop skills which are needed for the labour market. Higher education has a broader meaning – to enhance personal growth and to ameliorate social welfare.

Higher education has a symbiotic and iterative relationship with society: however, this is not sustainable. Living under conditions of continuous change brings plenty of new challenges

to which education systems must respond in a timely and adequate manner. The requirements change for systems as well as for people and their competences (Future Competences and the Future of Curriculum, 2017; Dzelzkaleja & Kapenieks, 2018). In this context higher education has to develop teaching/learning processes based on the latest achievements and to develop sustainable professional and transversal competences (High Level Group on the Modernisation of Higher Education, 2013) by adding emphasis on thinking skills and importance of finding non-traditional solutions (The Future of Education and Skills – Education 2030, 2018). Higher education is required to take a flagship role: to indicate a strategic direction, to warn of potential threats on time, to face challenges professionally, to take a position as leader in dealing with urgent social issues.

The changing role of higher education enables the development of competences which are needed for the labour market. Documents issued by the European Commission (Review of the 2006 Recommendation on Key Competences for Lifelong Learning, 2016), OECD (Global Competency for an Inclusive World, 2016), World Economic Forum (New Vision for Education: Fostering Social and Emotional Learning through Technology, 2016), and UNESCO (Education for Sustainable Development Goals: Learning Objectives, 2017) identify critical thinking as one such competence. It is a prerequisite for development of a mature, thoughtful, independent, initiative, creative personality able to contribute to economic growth, social welfare and civil society. Researchers (Maclellan & Soden, 2012; Kumar & James, 2015) analyse the concept of critical thinking from interpersonal and social points of view, in this way recognising its value and exceptional significance. Critical thinking helps to develop a personality able to act critically in personal and interpersonal spaces, to seek professional success, and to become a member of a smart society (Halpern, 2014). Critical thinking is also a very desirable competence which employers expect from their prospective employees (Hassan & Madhum, 2007). It is important not only for carrying out everyday professional activities, but also for enabling employees to raise reasonable, critical questions leading towards the best solutions, for being able to reflect on their own and other people's activities, and for understanding the importance of their personal contribution to the development of the organisation and society (Penkauskienė et al., 2019).

Increasing theoretical debate about critical thinking in political documents and research publications is evident, but what does it mean in reality in the context of higher education? Is it perceived as merely fostering personal cognitive capacities or as an integral element necessary for the development of interpersonal and social interactions as well? Is it associated with professional power which also leads to economic growth or with broader social benefits? And finally, what is critical thinking in the context of higher education? It would seem that all these questions have been already answered in numerous research publications about critical thinking; however, there are no clear and unambiguous answers. Based on a systematic literature review, the following problem questions are raised: *how does construction of critical thinking change in the context of higher education in research publications in different time periods? How are personal, interpersonal, and social aspects expressed in the concept of critical thinking in the context of higher education?*

Research methodology

For conceptualisation of critical thinking a systematic literature review approach was chosen out of fourteen literature review types suggested by Grant and Booth (2009). It differs from a traditional or narrative review as a systematic review uses a

more rigorous and well-defined approach to reviewing the literature in a specific subject area. Unlike traditional review, the purpose of a systematic review is to provide as complete a list as possible of all published articles relating to a particular subject area. While traditional review attempts to summarise results of a number of studies, a systematic review uses explicit and rigorous criteria to identify, critically evaluate and synthesise literature on a particular topic (Cronin, 2008). Parahoo (2006) suggests that a systematic literature review details the time frame within which the literature was selected, as well as the methods used to evaluate and synthesise findings of the studies in question.

Multi-stage sample was used for a systematic literature review about critical thinking in higher education. Scientific journals were selected in the first stage, and articles in the second stage.

Sampling of scientific journals. The list of scientific journals for analysis was generated using the Clarivate Analytics Journal Citation Reports database, evaluating the journal impact factor for the period of year 2016.[1] Two out of seven Barret's (in Edyburn, 2001) distinguished strategies for literature search were applied. The first of them – *a general search* – was done, not due to little knowledge about the topic as the author suggests is the case, but due to a desire to capture every source containing the concept of critical thinking. However, that intention was hindered by two factors: *first*, the possibility to get every selected document due to restricted access to some articles, and *second*, the prevalence of extraneous, incoherent and irrelevant material. Therefore, *a specific search* by using the Boolean logic (i.e., 'AND') as a means of linking key concepts ("critical thinking" AND "higher education") and, accordingly, reducing irrelevant items, was applied. As a result, 372 journals were found.

Sampling of articles. In 372 journals from the list, the articles on the topic of critical thinking were searched for by using the online research platform EBSCOhost (https://www.ebsco.com/). Sampling of articles within selected journals was carried out using the search setting consisting of four selection criteria: ISSN of the particular journal, keywords "*critical thinking"* AND "*higher education"* in field of Subject terms, full text, period of 1997–2017.[2] The authors followed the methodological position to analyse the top-quality scientific articles (Q1–Q4) in which the concept of critical thinking is analysed in the context of higher education. 804 scientific articles were found (55 in Q1, 264 in Q2, and 245 in Q3, and 240 in Q4). In the final stage the number of articles was reduced due to limited access to articles' content. Articles with a fee were classified as articles with limited access, and therefore were removed from the list. 303 articles constituted the final array of material related to the concept of critical thinking in higher education.

After the screening of the selected 303 articles, 151 articles defining the concept of critical thinking in higher education were selected. For the analysis of the concept of critical thinking in the selected articles the researchers used diachronic and synchronic approaches (Harrison 2005; Hämäläinen 2014). The diachronic approach enabled to reveal the increasing number of publications about critical thinking in higher education in the historical discourse within the time period 1993–2017. The synchronic approach of analysis enabled to reveal the systemic understanding of the concept of critical thinking in higher education by analysing similarities and differences as well as specificity. As the analysis revealed an uneven distribution

[1] The journal impact factors are estimated after a certain period of time, therefore, the impact factors obtained in March 2018 covered the year 2016 and were actual only due to June 2018.

[2] Due to data on journal impact factors covering the period until the end of 2016 at the research moment, possibly not all publications from 2017 were presented in correct quartiles in cases where scientific journals have been moved to another quartile after the beginning of new period of impact factor calculation.

of articles in respect of different study fields, thus comparative in-depth analysis in different study fields was abandoned.

Based on Dwyer (2017) and Hathcoat et al. (2016), the articles were grouped into two categories: domain-general (35 articles) and domain-specific (116 articles). Construction of the concept of critical thinking as being domain-specific or domain-general is directly related to integration of development of critical thinking into higher education programmes (Tiruneh et al., 2016). In the last stage the analysis of the concept of critical thinking was done from three points of view: personal, interpersonal, and social.

Findings

Diachronic approach – increasing number of publications about the concept of critical thinking in scientific publications in different time periods.

Diachronic approach revealed an increasing number of publications about critical thinking in higher education. 16 articles analysing the concept of critical thinking in the context of higher education were published 1993–2002; this number nearly tripled over the next decade. The number of publications kept increasing and in 2017 reached 64 publications. Such growth indicates changes in increasing frequency of this topic (see Figure 1).

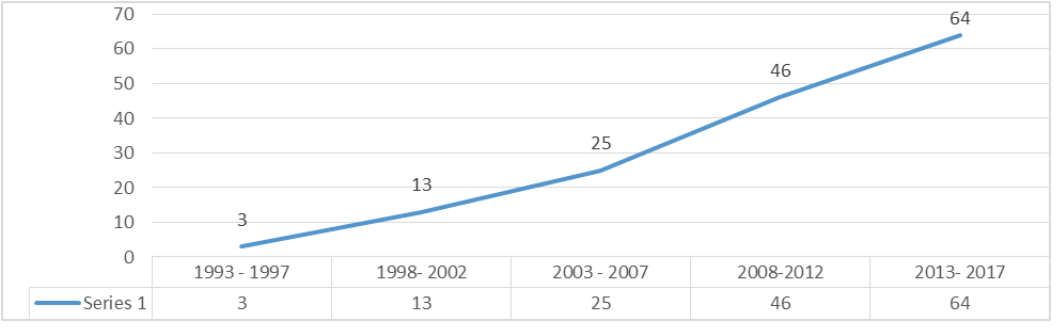

Figure 1. Changes in frequency of the topic of critical thinking

After analysing publications by study field, the researchers determined that out of 151 analysed articles 41 are in social sciences; 21 in education science; 10 in physical science; 9 in humanities; 8 in health science; and 6 in computer science. 26 interdisciplinary articles and 11 theoretical articles, which could not be clearly referred to any specific study field, were found. They were named as "Other". When analysing chronological changes in the concept of critical thinking in higher education in different study fields, the researchers determined that the number of publications about critical thinking in the fields of social, humanities, health and education sciences has been increasing from 2008. A more significant increase is noticed in all fields of higher education since 2013 (see Figure 2).

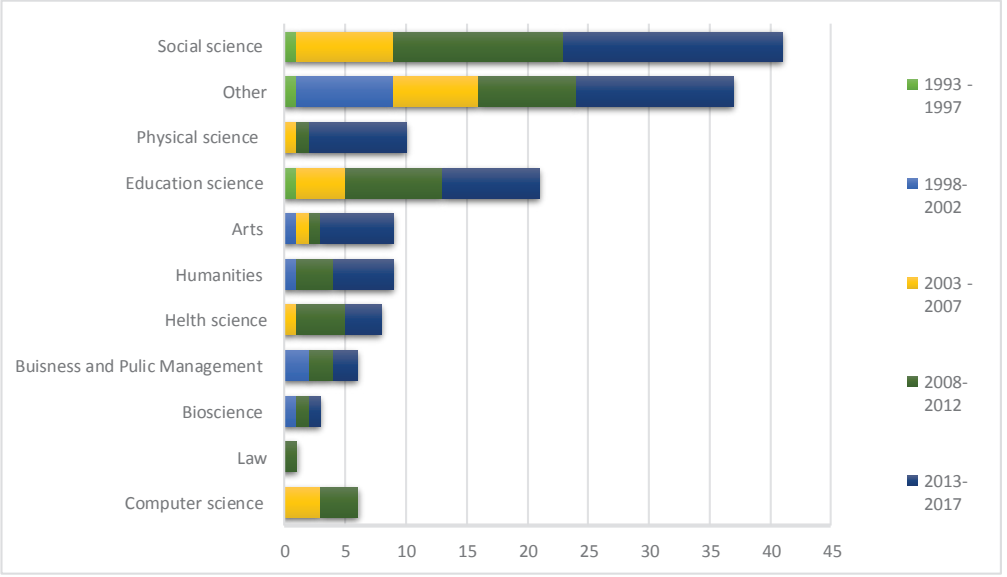

Figure 2. Increase in the number of publications based on study fields in higher education

As the analysis revealed an uneven distribution of the articles based on different study fields, in-depth analysis in different study fields was abandoned. We have no specific evidence-based summary findings regarding growth in publications. However, we assume that, on the one hand, this could have been affected by the number of researches (e.g. the results of Delphi research published in 1990 as well as new ones originating from them at a later time). On the other hand, increasing attention to critical thinking, as a general competence, could be affected by globalisation processes. Higher education is also affected by those processes in regard to a need to review study programmes in order to meet today's and future challenges (A Renewed EU Agenda for Higher Education, 2017). Higher education remains one of the prerequisites contributing to the maintenance of a dialogue on national and global development (and apparently it is expected to remain as such). Therefore, higher education institutions provide conditions for learners to develop critical thinking competence enabling them to respond adequately to national and global challenges, helping in the efficient solving of problems caused by rapidly changing, unpredictable and turbulent environments of the 21st century.

Synchronic approach – expression of critical thinking competence in the context of higher education: general or domain specific?

Synchronic approach of the analysis enabled analysis of the concept of critical thinking as a specific field (domain-specific) or independent of a specific field or discipline (domain-general) (Hathcoat et al., 2016; Dwyer, 2017). 35 articles presenting critical thinking as domain-general and 116 articles as domain-specific were found. Construction of the concept of critical thinking as domain-specific or domain-general is directly related to integration of the development of critical thinking into higher education programmes (Tiruneh et al., 2016). The researchers of the concept of critical thinking as being domain-general (Davies, 2013; Ennis, 1989; Halpern, 1998; Kuhn, 1999) claim the existence of a certain set of skills of critical thinking, which are general and applicable in various fields. These skills could be developed as a specific, independent subject of an education programme or be integrated into regular courses. On the other hand, researchers who define critical thinking as domain-specific

(McPeck, 1990; Moore, 2011) emphasise dependence of critical thinking on the knowledge in a specific field. Therefore, the development of critical thinking is implemented only in relation to the context of a specific field. According to Tiruneh et al. (2016), discussions regarding the generality and specificity of the phenomenon of critical thinking were directed towards a synthesis of these two approaches. Researchers (Davies, 2013; Robinson, 2011; Smith, 2002) believe that the contents and issues associated with generality and specificity differ in various areas. The ability to think critically about a certain task is perceived both as highly dependent on the content knowledge and task to be performed, and also dependent on knowledge about critical thinking skills. This means that efficient development of critical thinking has to be directed towards specific field knowledge and respective critical thinking skills.

Researchers (Danvers, 2016; Fitzpatrick, 2006; Jones, 2005; Kim & Bednarz 2013; Kreber, 2014; Robins, 2014; Strand, 2005, etc.), despite representing different study fields, approach critical thinking as the entirety of universal principles, abilities, and attitudes uniquely expressed in each situation and context by sometimes promoting one aspect and sometimes a different one. Therefore, it could be said that there are no obviously opposing camps of "critical thinking as a universal skill" and "critical thinking as a specific skill". It would seem that the discussions on this issue, which dominated in the previous century, are over. Critical thinking is understood as a natural "general-specific" connection (Davies, 2013; Ennis, 1989; Halpern, 1998; Kuhn, 1999). There are not so many authors left supporting McPeck's (1981) point of view that critical thinking is mostly associated with a specific subject, discipline, or field being studied (Donald, 2002; Hounsell & Anderson 2009). Naturally, the concepts "to think mathematically", "to think pedagogically", or "to think sociologically" simultaneously mean to think critically within the limits of one's field. However, critical thinking expands such limits by also enabling critical thinking about daily phenomena in life as well as broader problems (Grauerholz & Bouma-Holtrop, 2003; Hassan & Madhum, 2007; Malcom, 2006; Tiruneh et al., 2016). In summarising debate about domain-specific and domain-general approaches, critical thinking now is understood both as a transferable universal competence and as a set of certain abilities manifesting in a specific study field.

Synchronic approach – expression of critical thinking competence in the context of higher education: personal, interpersonal and social aspects?

Most of the analysed articles refer to cognitive personal skills manifesting in different fields of studies and professional activities. Emphasis is placed on the ability to analyse and to assess critically phenomena associated with a studied subject, to support one's opinion by providing valid proofs, and to solve specific problems (Blaich et al., 2013; Fitzpatrick, 2006; Kilic-Cakmak, 2010; Magno, 2010). Essentially this means an aspiration to avoid illogicality, to notice discrepancies, to be as accurate and as close to right solutions based on scientific facts and reality as possible (Evans, 2012; Stanovich et al., 2008). Critical thinking is also identified as a personal skill to think deeply and with reflection, to see multiple sides and complexity of phenomena and to use this as the basis of the assessments and solutions (Howard & Zoeller, 2007) as well as to seek improvement of the thinking (Kish et al., 1997; Leung & Kember, 2003; Phan, 2007). Critical thinking is perceived not only as the totality of certain personal abilities but as dispositions as well (Mathias, 2015; Healey & Ribchester, 2016). These two notions are not always clearly separated; they are often combined in the analysis of critical thinking. In some cases, and in the publications of well-known authors such as Ennis (1985; 1987; 1993), Facione (1996; 2007), etc., this distinction is very clear.

An interpersonal aspect of critical thinking expresses in two ways: as development of critical thinking in presence of others, most often in a group of learners; and as an aspiration to contribute to the welfare of others. The first case refers to sharing knowledge, abilities in a certain discipline, issue subject to examination, and an area of interest (Jones, 2005; Pascarella et al., 2013). The aim of a group interaction is to develop abilities of critical thinking, to look for the best solutions to a problem (Grarrison et al., 2001). The interpersonal aspect of critical thinking is expanded by a general need for the development of a common human relationship and staying in it meaningfully by sharing thoughts, ideas, doubts, critical assessment of themselves and the environment. A major part of the analysed articles refers to critical reflection and self-reflection as expression of the critical thinking competence and a way to improve it (Jones, 2005; Malcom, 2006; Pascarella et al., 2013; Strand, 2005) while being in an interactive relationship with others. In the second case it is referred to as a much broader interpersonal relationship. The researchers, who mostly represent the field of social sciences, see a need for the education of critically thinking care-takers (Fitzpatrick, 2006), social workers able to properly serve their clients (Robins, 2014; Samson, 2016). According to them, it is important to be able to distinguish which interventions could be harmful, which choices could be wrong, in order to avoid causing any damage to others. There are individual examples when these two methods, i.e. learning to think critically combined with an aspiration to serve others, are naturally integrated into certain study programmes. For example, Magno (2010) shares the experience of working with different student groups and claims that students' attitude towards different phenomena is much broader and deeper when they cooperate with each other and give feedback as compared with working individually. They learn to explore clients' problems caused by both internal and external circumstances together, to search for the best solutions for the welfare of a target group. However, in general, the personal aspect "I-you", "you-we" is not clearly reflected either as search for how to learn thinking critically together, or as how to look for the best ways to serve a certain target group. Most authors tend to limit themselves to the personal level directed towards a purposeful improvement of cognitive powers aiming for deeper knowledge and efficient solutions to problems.

The social level of critical thinking is connected with the essence of criticality. It is claimed that criticality lies not only in the ability to find mistakes in contemplation, factual discrepancies, deviations from reality, and illogicality of conclusions. Social science researchers (Danvers, 2016; Segall & Gaudelli, 2007) emphasise that the essence of criticality is the ability to question assumptions, which our thinking is based on, to show the trends of contrasting knowledge and knowing, and in this way to raise significant questions concerning the propagation of ideologies and distribution of power and influence in society. Such ideas are close to critical theory and pedagogy represented by Barnett (1997; 2001), Beyer (1985; 2008), Brookfield (1995), Freire (1970), Giroux (1981) and others. The concept of critical thinking itself is questioned at the same time by expressing regrets that critical thinking is squeezed into a narrow frame of thinking operations and regarded as being no more than higher-level thinking without separating it from the challenges of the daily life (Abrami et al., 2008; Johanson, 2010; Pence, 2009;). Critical thinking still remains as an institutional prerogative of exclusively cognitive development. Academic knowing and acquired critical thinking abilities have no clear expression in the external world, therefore it is difficult to weigh in on the social contribution of studies and the impact of critical thinking on a wider audience. Also, little is known about the "employment" of graduates' critical thinking skills in real life situations. Researchers (Johanson, 2010; Pence, 2009; Segall & Gaudelli, 2007) admit

that the task of higher education is not only provision of scientific knowledge but also teaching to analyse and to consider much more complex phenomena of social life: identity, truth, power, and to be determined to get actively involved. Scholars (Rickles et al., 2013) claim that critical thinking is integral to civil thinking, therefore the duty of education is not only to analyse topics relevant to social life, to show injustices, and to warn of impending threats but also to design future scenarios. Instrumental understanding of critical thinking associated with only efficient solutions gives away the spotlight to the consumer approach and does not take advantage of the possibilities to see a deeper picture and to serve wider objectives of the humanity as provided by critical thinking (Lim, 2011). "As political geographers engaged in teaching about 'the world,' we try to equip our students with a critical lens with which they can begin to see the world as it is actively spatialized, divided up, labelled, sorted out into a hierarchy of places of greater or lesser 'importance' by political geographers, other academics and political leaders" (Agnew, 1998). Similar thoughts on the purpose of higher education and studies are shared by representatives of humanities (Kreber, 2014), education science (Crème, 1999; Lim, 2011; Tiruneh et al., 2016), art (Belluigi, 2009; Strand, 2005), life sciences (Raveendram & Chunavala, 2015). Thus, students' ability to analyse phenomena in wider contexts, to consider the matters of power and influence, to question the established order give a political dimension to critical thinking (Baildon & Sim, 2009).

We claim that interest in critical thinking and research thereof in higher education is gradually increasing. Critical thinking is researched as both a general competence and a domain-specific competence associated with a specific subject. Most authors support an integral approach: to define critical thinking as both a general competence and a competence associated with a specific subject. Scholars of different fields tend to associate critical thinking with development of a person's cognitive and intellectual powers, including skills and attitudes. There are also authors who reveal the interpersonal and social aspects of critical thinking. The interpersonal aspect manifests through self-improvement with the help of others and the aspiration to serve others. The social aspect manifests through application of critical thinking to consideration of broader issues stepping outside the limits of a specific discipline or professional area.

Discussion and conclusions

The systematic literature review showed that critical thinking is mostly associated with fostering a person's cognitive powers and attitudes aiming for the learner's growth and improvement. We identify this as enhancement of critical thinking on an individual level. This is actually necessary both for maturation of the personality and ability to employ all these skills later in real situations. This has also been covered by the academic community (Brookfield, 2012; Halpern, 2014; Kahneman, 2011) and business representatives (Burbach et al., 2004; Penkauskienė et al., 2019) as well. Critical thinking is often identified as an objective or an ideal of higher education, which the efforts of the academic community should be focused on. This objective is described as graduates' ability to become critically thinking professionals able to build their lives, to cooperate successfully with others in solving emerging problems, to make risky decisions contributing to the welfare of society. However, scholars researching the concept of critical thinking in higher education and/or the study process signal a certain mismatch between this ideal and reality. They refer to "immaturity" (Turner, 2005) and narrowness (Walkner & Finney, 1999) of the concept of critical thinking when excessive focus is placed on enhancement of the cognitive capacities, and the ability to find the right solutions

for a person him/herself based on logical contemplations. It is feared that critical thinking could remain as mere exercise for a person's mind, a personal asset not shared with others and not used for broader objectives declared as a part of the missions of higher education (Danvers, 2016; Wang et al., 2011) and education policy (European Commission, 2017; Teaching for Global Competence in a Rapidly Changing World, 2018). Therefore, the idea of Barnett (1997) that a critically thinking person is more than just an intellectual entity still remains relevant even twenty years later. A critically thinking person can be recognised not only from the statements he/she makes but also from his/her actions, i.e. from the way he/she uses his/her knowledge for his/her own and other people's benefit. Nowadays many synonymous terms are associated with critical thinking, such as reasonable, reflective, scientific, powerful, systemic, etc. They are all suitable for emphasising a certain aspect of the concept of critical thinking. However, it is probably more important to return to the core of critical thinking, i.e. criticality, which is defined as the ability to question, explore, and change the established beliefs of their own and others (Paul & Elder, 2006); as orders and ideologies (Brookfield, 2005); as a whole of critical thinking abilities and approaches expressed through critical reflection and critical action (Davies & Barnett, 2015). Higher education, which seeks to educate mature, professionally competent and critically thinking personalities, should reconsider the concepts of development of critical thinking so that they would actually align with the mission of higher education and would lead to more than economically beneficial objectives. Higher education, like education in general, must resist short-term goals aiming to meet the needs of certain public groups, because this is not the purpose of higher education (Biesta, 2019). According to Biesta (2019), its natural purpose is to question reality and to seek not only the empowerment of a person but emancipation as well. Learners must become true critical thinkers with a clear political orientation and contribute to the development of democracy. This does not mean that the basics of critical thinking should not be taught. However, the question is whether higher education institutions should limit themselves to that. Probably not. The systematic literature review offers many statements concerning a broader meaning of critical thinking and the mission of higher education and studies in education of critically thinking people. The abundance of the articles analysed, and specific examples of development of critical thinking, also reflect lecturers' efforts and their ability to teach critical thinking as well as students' ability to learn it. However, there are very few examples of true, authentic criticality in the full scope of this concept. And yet they are very fragmented, preventing sight of a bigger picture of expression of critical thinking in different study programmes and professional fields.

Gradually resurfacing and renewed scientific discussion of the importance of critical thinking, and the task of higher education in fostering it, gives hope that critical thinking is developing as personal, interpersonal and social competence. At the same time, it gives a chance to rethink the concept of critical thinking: how it is expressed in a specific context, and what examples there are. Finally, what new concepts are suggested by academic researchers and practitioners? We believe it would be meaningful to continue researching authentic experiences and sharing findings revealing diverse concepts of critical thinking and expression thereof.

Acknowledgements

This project has received funding from European Social Fund (project No 09.3.3-LMT-K-712-01-0068) under grant agreement with the Research Council of Lithuania (LMTLT), 2018-2021

References

Abrami, P., Bernard, R., Borokhovski, E., Wade, A., Surkes, M., Tamim, R., & Zhang, D. (2008). Instructional interventions affecting critical thinking skills and dispositions: A stage 1 meta-analysis. *Review of Educational Research*, *78,* 1102–1134. doi: 10.3102/0034654308326084.

Agnew, J. (1998). *Geopolitics: re-visioning world politics* (London, Routledge).

Baildon, M. C. & Sim, J. B. Y. (2009). Notions of criticality: Singaporean teachers' perspectives of critical thinking in social studies. *Cambridge Journal of Education*, *39*(4), 407-422. *doi: 10.1080/03057640903352481*.

Barnett, R. (1997). *Higher education: a critical business*. Buckingham, Open University Press.

Barnett, R. (2013). *Imagining the university*. London; New York, Routledge.

Barnett, R., Parry, G., & Coate, K. (2001). Conceptualizing curriculum change. *Teaching in Higher Education, 6*(4), 436–49. doi: 10.1080/13562510120078009.

Belluigi, D. Z. (2009). Exploring the discourses around 'creativity' and 'critical thinking' in a South African creative arts curriculum. *Studies in Higher Education, 34*(6), 699-717. doi: 10.1080/03075070802644911.

Beyer, B. K. (1985). Critical thinking: what is it? *Social Education, 49*(4), 270-276.

Beyer, B. K. (2008). How to teach thinking skills in social studies and history. *The Social Studies*, *99*(5), 196–201. doi: 10.3200/TSSS.99.5.196-201.

Biesta, G. J. J. (2014). The Beautiful Risk of Education. *Education Theory*, *64*(3), 303-309. doi: 10.1007/s11217-015-9468-1.

Biesta, G. J. J. (2019). *Obstinate Education: Reconnecting School and Society*. Leiden, Brill Sense.

Brookfield, S. D. (1995). *Becoming a critically reflective teacher*. San Francisco, Jossey-Bass.

Brookfield, S. D. (2012). *Teaching for critical thinking. Tools and techniques to help students question their assumptions*. San Francisco, Jossey-Bass.

Brookfield, S. D. (2005). *The power of critical theory for adult learning and teaching.* Retrieved from: http://www.arabcampaignforeducation.org/functions.php?action=files&table=files&ID=197.

Burbach, M. E., Matkin, G. S., & Fritz, S. M. (2004). Teaching critical thinking in an introductory leadership course utilizing active learning strategies: a confirmatory study. *College Student Journal*, *38*(3), 482-493.

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions European higher education in the world (2013). Retrieved from: http://www.eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2013:0499:FIN.

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a renewed EU agenda for higher education (2017). Retrieved from: http://www.eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0247&from=DA.

Corner, F. (2005). Identifying the core in the subject of Fine Art. *International Journal of Art & Design Education*, *24*(3), 334-42. doi: 10.1111/j.1476-8070.2005.00457.x.

Creme, P. (1999). A reflection on the education of the 'critical person'. *Teaching In Higher Education*, *4*(4), 461-471.

Cronin, P., Frances, R., & Coughlan, M. (2008). Undertaking a literature review: a step-by-step approach. *British journal of nursing, 17* (1), 38-43. doi: 10.12968/bjon.2008.17.1.28059.

Danvers, E. C. (2016). Criticality's affective entanglements: rethinking emotion and critical thinking in higher education. *Gender & Education*, *28*(2), 282-297. doi: 10.1080/09540253.2015.1115469.

Davies, M. (2013). Critical thinking and the disciplines reconsidered. *Higher Education Research & Development, 32*(4), 529–544. doi: 10.1080/07294360.2012.697878.

Davies, W. M. & Barnett, R. (2015). *The Palgrave Handbook of Critical Thinking in Higher Education.* New York, Palgrave. doi: 10.1080/14703297.2017.1330176.

Donald, J. G. (2002). *Learning to think: disciplinary perspectives*. San Francisco, Jossey-Bass.

Dwyer, CH. P. (2017). *Critical thinking. Conceptual perspectives and practical guidelines*. doi. org/10.1017/9781316537411.

Dzelzkaleja, L. & Kapenieks, J. (2018). Contradictions in Higher Education. *Journal of Teacher Education for Sustainability*, *20*(1), 124-144. doi:10.2478/jtes-2018-0008.

Education for sustainable development goals: learning objectives. (2017). Retrieved from: http://www.unesdoc.unesco.org/images/0024/002474/247444e.pdf.

Edyburn, D. (2001). Scholarly endeavours: conducting a comprehensive review of the literature using digital resources. *Journal of Special Education Technology*, *16*(1), 49-52.

Ennis, R. H. (1985). A logical basis for measuring critical thinking skills. *Educational Leadership, 43*(2), 44-48.

Ennis, R. H. (1989). Critical thinking and subject specificity: clarification and needed research. *Educational Researcher, 18*(3), 4-10.

Ennis, R. H. (1987). A taxonomy of critical thinking dispositions and abilities. In J. Boykoff-Baron & R. J. Sternberg (Eds.) *Teaching thinking skills: theory and practice* (pp. 11-26). New York, W. H. Freeman.

Ennis, R. H. (1993). Critical thinking: What is it? In H. A. Alexander (Ed.) *Philosophy of education* (pp. 76–80). Urbana, IL, Philosophy of Education Society.

Evans, J. S. B. T. (2012). Questions and challenges for the new psychology of reasoning. *Thinking &Reasoning*, *18*, 5-31. doi: 10.1080/13546783.2011.637674.

Facione, P. A. (1996). Critical thinking: what it is and why it counts. Retrieved from: http://www.calpress.com/critical.html.

Facione, P. A. (2007). *Critical thinking: what it is and why it counts*. Millbrae, CA, California Academic Press.

Fitzpatrick, J. J. (2006). An evaluative case study of the dilemmas experienced in designing a self-assessment strategy for Community Nursing students. *Assessment & Evaluation In Higher Education, 31*(1), 37-53. doi: 10.1080/02602930500262361.

Freire, P. (1970). *Pedagogy of the oppressed*. New York, Continuum.

Future Competences and the Future of Curriculum (2017). Retrieved from: http:// www.ibe.unesco.org/sites/default/files/resources/02_future_competences_and_the_future_of_curriculum_30oct.v2.pdf.

Garrison, D. R., Anderson, T., & Archer, W. (2001). Critical thinking, cognitive presence, and computer conferencing in distance education. *The American Journal of Distance Education, 15*(1), 7-23. doi:10.1080/08923640109527071.

Giroux, H. (1981). *Ideology, Culture and the Process of Schooling*. London, Falmer.

Global competency for an inclusive world. OECD (2016). Retrieved from: http:// www.oecd.org/education/Global-competency-for-an-inclusive-world.pdf.

Grant, M. J. & Booth A. (2009). A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Information and Libraries Journal*, *26*, 91-108. doi: 10.1111/j.1471-1842.2009.00848.x.

Grauerholz, L. & Bouma-Holtrop, Sh. (2003). Exploring critical sociological thinking. *Teaching Sociology, 31*(4), 485–496. doi:10.2307/3211372.

Halpern, D. F. (1998). Teaching critical thinking for transfer across domains. *American Psychologist, 53*(4), 449–455. doi.org/10.1037/0003-066X.53.4.449.

Halpern, D. F. (2014). *Thought and knowledge: an introduction to critical thinking*. New York, Psychology Press.

Hämäläinen, J. (2014). Comparative research in social work: methodological considerations using the 'diachronic–synchronic' distinction in linguistics. *European Journal of Social Work*, *17*(2), 192-205. doi.org/10.1080/13691457.2013.777333.

Harrison, S. P. (2005). On the limits of the comparative method. In B. D. Joseph & R. D. Janda (Eds.) *The handbook of historical linguistics* (pp. 213-243). Malden, MA, Blackwell.

Hassan, K. E. & Madhum, G. (2007). Validating the Watson Glaser Critical Thinking Appraisal. *Higher Education: The International Journal of Higher Education And Educational Planning, 54*(3), 361-383. doi: 10.1007/s10734-006-9002-z.

Hathcoat, J. D., Penn, J. D., Barnes, L. L. B., & Comer, J. C. (2016). A second dystopia in education: validity issues in authentic assessment practices. *Research in Higher Education*, *57*(7), 892-912. doi: 10.1007/s11162-016-9407-1.

Healey, R. L. & Ribchester, C. (2016). Developing ethical geography students? The impact and effectiveness of a tutorial-based approach. *Journal of Geography in Higher Education*, *40*(2), 302-319. doi: 10.1080/03098265.2016.1141396.

High Level Group on the Modernisation of Higher Education. Report to the European Commission on improving the quality of teaching and learning in Europe's higher education institutions. (2013). Retrieved from: http://www.publications.europa.eu/en/publication-detail/-/publication/fbd4c2aa-aeb7-41ac-ab4c-a94feea9eb1f.

Hounsell, D. & Anderson, C. (2009). Ways of thinking and practicing in biology and history: disciplinary aspects of teaching and learning environments. In C. Kreber (Eds.) *The University and Its Disciplines*, (pp. 71–84). New York and London, Routledge.

Howard, J. & Zoeller, A. (2007). The role of the introductory sociology course on students' perceptions of achievement of general education goals. *Teaching Sociology, 35*(3), 209-22. doi. org/10.1177/0092055X0703500301.

Johanson, J. (2010). Cultivating critical thinking: an interview with Stephen Brookfield. *Journal of Developmental Education*, *33*(3), 26-30.

Jones, A. (2005). Culture and context: critical thinking and student learning in introductory macroeconomics. *Studies in Higher Education*, *30*(3), 339-354. doi:10.1080/03075070500095788.

Kahneman, D. (2011). *Thinking, fast and slow*. New York, NY, US, Farrar, Straus and Giroux.

Kilic-Cakmak, E. (2010). Learning strategies and motivational factors predicting information literacy self-efficacy of e-learners. *Australasian Journal of Educational Technology*, *26*(2), 192-208. doi:10.14742/ajet.1090

Kim, M. G. & Bednarz, R. (2013). Development of critical spatial thinking through GIS learning. *Journal of Geography in Higher Education*, *37*(3), 350-366. doi:10.1080/03098265.2013.769091

Kish, C. K., Sheehan, J. K., Cole, K. B., Struyk, L. R., & Kinder, D. (1997). Portfolio in the classroom: A vehicle for developing reflective thinking. *The High School Journal*, *80*, 254-260. doi: 10.1080/03098265.2013.769091.

Kreber, C. (2014). Rationalising the nature of "Graduateness" through philosophical accounts of authenticity. *Teaching in Higher Education*, *19*(1), 90-100. doi:10.1080/13562517.2013.860114.

Kuhn, D. (1999). A developmental model of critical thinking. *Educational Researcher. 28* (2), 16-46. doi: 10.2307/1177186.

Kumar, R. & James, R. (2015). Evaluation of critical thinking in higher education in Oman. *International Journal of Higher Education*, *4*(3), 33-43. doi: 10.5430/ijhe.v4n3p33.

Leung, D. Y. P. & Kember, D. (2003). The relationship between approaches to learning and reflection upon practice. *Educational Psychology*, *23*, 61-71. doi:10.1080/01443410303221.

Lim, L. (2011). Beyond logic and argument analysis: critical thinking, everyday problems and democratic deliberation in Cambridge International Examinations' Thinking Skills curriculum. *Journal of Curriculum Studies*, *43*(6), 783-807. doi: doi.org/10.1080/00220272.2011.590231.

Maclellan, E. & Soden, R. (2012). Psychological knowledge for teaching critical thinking: the agency of epistemic activity, metacognitive regulative behaviour and (student-centred) learning. *Instructional Science, 40* (3), 445-460. doi: 10.1007/s11251-011-9183-4.

Magno, C. (2010). The role of metacognitive skills in developing critical thinking. *Metacognition and Learning*, *5* (2), 137-156.

Malcom, N. L. (2006). Analyzing the news: teaching critical thinking skills in a writing intensive social problems course. *Teaching Sociology, 34*(2), 143-49.

Mathias, J. (2015). Thinking like a social worker: examining the meaning of critical thinking in social work. *Journal of Social Work Education*, *51*(3), 457-474. doi:10.1080/10437797.2015.1043196.

McPeck, J. (1981). *Critical thinking and education* (Oxford, Martin Robertson).

McPeck, J. (1990). *Teaching critical thinking: dialogue and dialectic* (New York, Routledge).

Moore, T. (2011). Critical thinking and disciplinary thinking: a continuing debate. *Higher Education Research & Development, 30*(3), 261-274. doi:10.1080/07294360.2010.501328.

New vision for education: fostering social and emotional learning through technology. (2016). Retrieved from: http://www3.weforum.org/docs/WEF_New_Vision_for_Education.pdf.

Parahoo, K. (2006). *Nursing Research – principles, process and issues.* Palgrave, Houndsmill.

Pascarella, E., Wang, J., Trolian, T., & Blaich, C. (2013). How the instructional and learning environments of liberal arts colleges enhance cognitive development. *Higher Education*, *66*(5), 569-583. doi: 10.1007/s10734-013-9622-z.

Paul, R. & Elder, L. (2006). *The miniature guide to critical thinking: concepts and tools*. Tomales, CA, The Foundation for Critical Thinking.

Pence, D. (2009). "I'll take ideology for $200, Alex": using the game show "Jeopardy" to facilitate sociological and critical thinking. *Teaching Sociology*, *37*(2), 171-176.

Penkauskienė, D., Railienė, A., & Cruz, G. (2019). How is critical thinking valued by the labour market? Employer perspectives from different European countries. *Studies in Higher Education, 44* (5), 1-12. doi.org/10.1080/03075079.2019.1586323.

Phan, H. P. (2007). An examination of reflective thinking, learning approaches, and self-efficacy beliefs at the University of the South Pacific: a path analysis. *Educational Psychology*, 27, 789–806. doi.org/10.1080/01443410701349809.

Pillay, P. (2011). *Higher education and economic development literature review*. Retrieved from: http://www.chet.org.za/papers/higher-education-and-economic-development-review-literature.

Raveendram, A. & Chunavala, S. (2015). Reproducing values: a feminist critique of a higher secondary biology textbook chapter on reproductive health. *Indian Journal of Gender Studies*, *22*(2), 194-218. doi.org/10.1177/0971521515578244.

Review of the 2006 recommendation on key competences for lifelong learning (2016). Retrieved from: http://www.ec.europa.eu/education/initiatives/key-competences-framework-review-2017_en.

Rickles, M. L., Schneider, R. Z., Slusser, S. R., Williams, D. M., & Zipp, J. F. (2013). Assessing change in student critical thinking for introduction to sociology classes. *Teaching Sociology*, *41*(3), 271-281. doi:10.1177/0092055X13479128.

Robinson, S. R. (2011). Teaching logic and teaching critical thinking: revisiting McPeck. *Higher Education Research & Development, 30*(3), 275-287. doi.org/ 10.1080/ 07294360.2010.500656.

Robinson, S. R. (2014). From the editor – accreditation, competency-based education, and EPAS Revisions. *Journal of Social Work Education*, *50*(4), 581-586. doi.org/10.1080/10437797.2014.947893.

Samson, P. L. (2016). Critical thinking in social work education: a research synthesis. *Journal of Social Work Education*, *52*(2), 147-156. doi:10.1080/10437797.2014.947893.

Segall, A. & Gaudelli, W. (2007). Reflecting socially on social issues in a social studies methods course. *Teaching Education*, *18*(1), 77-92. doi.org/10.1080/10476210601151599.

Smith, G. (2002). Are there domain-specific thinking skills? *Journal of Philosophy of Education, 36*(2), 207-227. doi.org/10.1111/1467-9752.00270.

Stanovich, K. E., Toplak, M. E., & West, R. F. (2008). The development of rational thought: a taxonomy of heuristics and biases. *Advances in Child Development and Behaviour*, *36*, 251-285. dx.doi.org/10.1016/S0065-2407(08)00006-2.

Strand, T. (2005). Peirce on education: nurturing the first rule of reason. *Studies in Philosophy and Education*, *24*(3), 309-316. doi.org/10.1007/s11217-005-3852-1.

Strengthening European Identity through Education and Culture: The European Commission's Contribution to the Leaders' Meeting in Gothenburg. (2017). European Commission, Luxembourg, Publications Office of the European Union.

Teaching For Global Competence in a Rapidly Changing World. OECD (2018). Paris, OECD Publishing.

The future of education and skills. Education 2030. OECD. Retrieved from: http:// www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf.

Tiruneh, D., Weldeslassie, A., Kassa, A., Tefera, Z., Cock, M., & Elen, J. (2016). Systematic design of a learning environment for domain-specific and domain-general critical thinking skills. *Educational Technology Research & Development*, *64*(3), 481-505. doi.org/10.1007/s11423-015-9417-2.

Turner, P. (2005). Critical thinking in nursing education and practice as defined in the Literature. *Nursing Education Perspectives, 26* (5), 272-277.

Walker, M. (2015). Higher education and the public good. In S. McGrath & Q. Gu (Eds.), *Routledge Handbook on International Education and Development*. Routledge, London.

Walkner, P. & Finney, N. (1999). Skill development and critical thinking in higher education. *Teaching in Higher Education*, *4*(4), 531-547. doi.org/10.1080/135625199004040 9.

Wang, Y., Chao, C. Y., & Liao, H. (2011). Poststructural feminist pedagogy in English instruction of vocational-and-technical education. *Higher Education*, *61*(2), 109-139.doi.101007/s10734-010-9327-5.

WHAT CRITICAL THINKING AND FOR WHAT?

Summary

Valdonė Indrašienė, Violeta Jegelevičienė, Odeta Merfeldaitė, Daiva Penkauskienė, Jolanta Pivorienė, Asta Railienė, Justinas Sadauskas, Natalija Valavičienė,
Mykolas Romeris University, Lithuania

The article discusses the construction of the critical thinking concept in higher education and its change in scientific publications between 1993 and 2017. The following **problem questions** are raised: *how does construction of critical thinking change in the context of higher education in research publications in different time periods? How are personal, interpersonal, and social aspects expressed in the concept of critical thinking in the context of higher education?*

Research methodology. For conceptualisation of critical thinking a systematic literature review approach was chosen. Multi-stage sample was used for a systematic literature review. Scientific journals were selected in the first stage. As a result, 372 journals were found. In 372 journals from the list, the articles on the topic of critical thinking were searched for by using the online research platform EBSCOhost (https://www.ebsco.com/). The authors followed the methodological position to analyse the top-quality scientific articles (Q1–Q4) in which the concept of critical thinking is analysed in the context of higher education. 804 scientific articles were found (55 in Q1, 264 in Q2, and 245 in Q3, and 240 in Q4). In the final stage the number of articles was reduced due to limited access to articles' content. 303 articles constituted the final array of material related to the concept of critical thinking in higher education. After the screening of the selected 303 articles, 151 articles defining the concept of critical thinking in higher education were selected. For the analysis of the concept of critical thinking in the selected articles the researchers used diachronic and synchronic approaches.

Findings and conclusions. The systematic literature review showed that critical thinking is mostly associated with fostering a person's cognitive powers and attitudes aiming for the learner's growth and improvement. We identify this as enhancement of critical thinking on an individual level. This is actually necessary both for maturation of the personality and ability to employ all these skills later in real situations. Critical thinking is often identified as an objective or an ideal of higher education, which the efforts of the academic community should be focused on. This objective is described as graduates' ability to become critically thinking professionals able to build their lives, to cooperate successfully with others in solving emerging problems, to make risky decisions contributing to the welfare of society. However, scholars researching the concept of critical thinking in higher education and/or the study process signal a certain mismatch between this ideal and reality. It is feared that critical thinking could remain as mere exercise for a person's mind, a personal asset not shared with others and not used for broader objectives declared as a part of the missions of higher education and education policy. Therefore, the idea of Barnett (1997) that a critically thinking person is more than just an intellectual entity still remains relevant even twenty years later. A critically thinking person can be recognised not only from the statements he/she makes but also from his/her actions. Higher education, which seeks to educate mature, professionally competent and critically thinking personalities, should reconsider the concepts of development of critical thinking so that they would actually align with the mission of higher education and would lead to more than economically beneficial objectives. Higher education, like education in general, must resist short-term goals aiming to meet the needs of certain public groups, because this is not the purpose of higher education (Biesta, 2019). Its natural purpose is to question reality and to seek not only the empowerment of a person but emancipation as well. Learners must become true critical

thinkers with a clear political orientation and contribute to the development of democracy. This does not mean that the basics of critical thinking should not be taught. However, the question is whether higher education institutions should limit themselves to that. Probably not. The systematic literature review offers many statements concerning a broader meaning of critical thinking and the mission of higher education and studies in education of critically thinking people. The abundance of the articles analysed, and specific examples of development of critical thinking, also reflect lecturers' efforts and their ability to teach critical thinking as well as students' ability to learn it. However, there are very few examples of true, authentic criticality in the full scope of this concept. Gradually resurfacing and renewed scientific discussion of the importance of critical thinking, and the task of higher education in fostering it, gives hope that critical thinking is developing as personal, interpersonal and social competence.

Corresponding author email: o.merfeldaite@mruni.eu