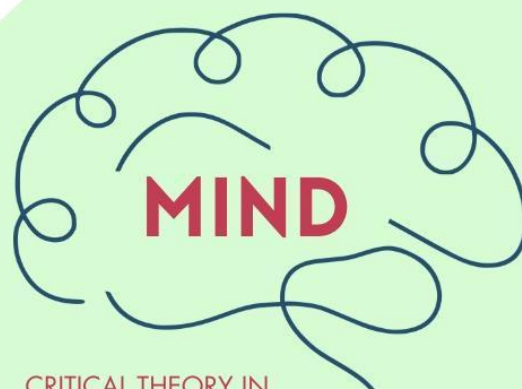


COMPENDIUM OF SCIENTIFIC IDEAS

Critical thinking in non-formal adult education



CRITICAL THEORY IN
ADULT EDUCATION PRACTICE:
EMPOWERMENT FOR CRITICAL ACTIONS



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Authors

Coordinators: Daniela Dumitru, Mihaela Minciu, Ramona-Elena Richițeanu-Năstase, Monica Păduraru

Researchers: Daniela Dumitru, Sandra Kalniņa, Petra Katana, Antonela Marjanušić, Robert Mihăilă, Mihaela Minciu, Monica Păduraru, Daiva Penkauskienė, Ramona-Elena Richițeanu-Năstase, Camelia Stăiculescu, Iveta Verse

Redactor

Jurgita Balaišienė (Šiuolaikinių didaktikų centras, LT)

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Introduction

The present study is a systematic review of the landscape of adult education, performed through non-formal teaching strategies, with the objective of enhancing critical thinking (CT) skills and dispositions.

A series of paper selection criteria have been described and applied to international and national publications.

Our findings indicated that the definition of CT in adult education is aligned with the prevailing definitions and schools, yet there is a paucity of research in this field. Consequently, our paper can assist in illuminating an emerging field, namely CT in adult education.

The literature consulted indicated that there is no national specificity for adult education or for CT. We identified several strategies, including problem-based learning and self-directed learning which are common both in adult education and CT education. Different methods were tried (book clubs, numeracy classes, art classes, questioning, building networks and friendships etc.) to bring empowerment and self-determination to adults' life.

We have also employed a qualitative research methodology, an online written interview with the experts from the research team in order to better understand and portray the topic through their eyes. The results showed that CT is considered an everyday life skill, and it brings wiser decisions and clarity. It is also an antidote to misinformation and fake news, but also improves communication.

It was pointed out that in the complicated reality of adulthood, CT can be dangerous. Many people decide not to express their critical thoughts because they might lose jobs, friends, and even be killed. But it was not a consensus, and other experts said that only benefits can be drawn from CT spirit.

Methodology

We aim to propose a systematic literature review, using desk research of the most relevant works, national and international. Hence, we had proposed the following steps and criteria for data gathering:

Recommended keywords for Boolean search:

- *CT AND non-formal education AND adult education*;
- *CT AND non-formal education AND adult education AND Croatia/Latvia/Lithuania/Romania* (for each of the countries represented in the research team);
- if needed (if too many entries were found) add as keywords *interventions AND meta-analysis AND systematic reviews*;
- if too little entries are found, especially on national level, the search continues to the last 10 years and even further, if researchers have knowledge of significant inputs for the future development of the project.

Completing reading cards

For each selected relevant literature (CT, adult education, interventions, review articles) the researchers wrote a reading card. We recommended that the selected articles and chapters are **interventions** (experimental programs, action research, and various types of programs for adults related to CT even though CT is a secondary issue), **meta-analysis** or **systematic reviews** concerning CT in adult education, in the last 5–10 years. We were aware that the pandemic tampered the empirical research, and this led to the decision to go as far as 10 years back.

We present the review's results by explaining the CT definitions, the portrait of the ideal critical thinker, as well as the aims, results, and recommendations from the reviewed authors.

The aim of the review is to gather relevant and new information, in interventional and applied context. We needed to gather proofs of interventions, CT programs for adult education in non-formal settings, in order to have a starting point for creating our training program to enhance CT in adults.

Results

In search for quality papers, the team found (on Google Scholar and Web of Science) an impressive number of papers, close to 60.000 was found. But most of them were not meeting the criteria presented in the methodology. Many papers did not refer to CT at all, and this was the main reason to exclude them. Further, they were not presenting interventions, training or education programs, and this was the second motive of exclusion. Moreover, the year of publication was the third main criterion for exclusion.

In the end, 13 papers were kept for review in international context and 16 papers in the four national contexts (Croatian, Latvian, Lithuanian and Romanian), 29 papers in total. In the following, we shall present the results structured in several sections: the definitions of CT in adult education, content and issues addressed in international literature, recommendations and conclusions of the selected papers. Finally, a separate section was created to present the four national contexts.

What is critical thinking?

Ennis, 1962

- CT is correct evaluation of statements.

McPeck, 1981

- CT is the intelligent exploitation of all relevant evidence in order to solve a particular problem.

Chance, 1986

- CT is the capacity to analyse facts, create and organise ideas, support opinions and make comparisons, make inferences, evaluate arguments and solve problems in order to solve a particular problem.

Brookfield, 1987

- CT involves calling into question the assumptions underlying our customary, habitual ways of thinking and acting and then being ready to think and act differently on the basis of this critical questioning.

Mayer & Goodchild,
1990

- CT is intentional, self-regulating judgment which results in analysis, evaluation, inference and interpretation as well as conceptual, evidential, methodological explanations, criteria or context on which the judgment is based.

Facione, 1990

- CT is a systematic and active process of comprehension and evaluation of arguments.

Moore & Parker,
1991

- CT is careful and intentional determination of the acceptance, rejection or suspension of the judgment.

Behar-Horenstein &
Niu, 2011; Snyder &
Snyder, 2008; Smith,
2003

- CT is controlled reflective thinking using active argumentation, logical reasoning, inference and appreciation of information in making valuable judgements.

Burn & Sinfield,
2016 m.

- CT is making clear, reasoned judgments based on interpreting, understanding, applying and synthesizing evidence gathered from observation, reading, and experimentation.

Halpern, 2014

- CT is the use of cognitive techniques or strategies that increase the likelihood of achieving a qualitative result. It is a type of thinking used to solve problems, formulate conclusions, evaluate options and make decisions.

Lipman, 1988

- CT is thinking that promotes judgement by being criteria-based, self-correcting and context-sensitive.

Hatcher & Spencer,
2006

- CT is a way of thinking that seeks to reach a judgement solely on the basis of alternatives weighed in good faith, respecting the evidence and arguments used.

Critical thinker portrait

When a person is a critical thinker, they are more prone to see the wider picture.

Engaging in CT does not imply adopting a negative stance or fixating on flaws. Rather, it involves refining one's thoughts to deconstruct a problem or information, interpret it, and utilize that understanding to reach an informed decision or assessment.

Individuals who consistently employ CT are often said to possess a **CT mindset**, though this skill is acquired through learning and practice, rather than an innate trait.

Paul and Elder (2006) consider that a highly trained critical thinker approaches vital, complex problems by formulating clear questions, gathering and analysing information relevant to the subjects researched to interpret them effectively and identify well-reasoned solutions and conclusions (Figure 1).

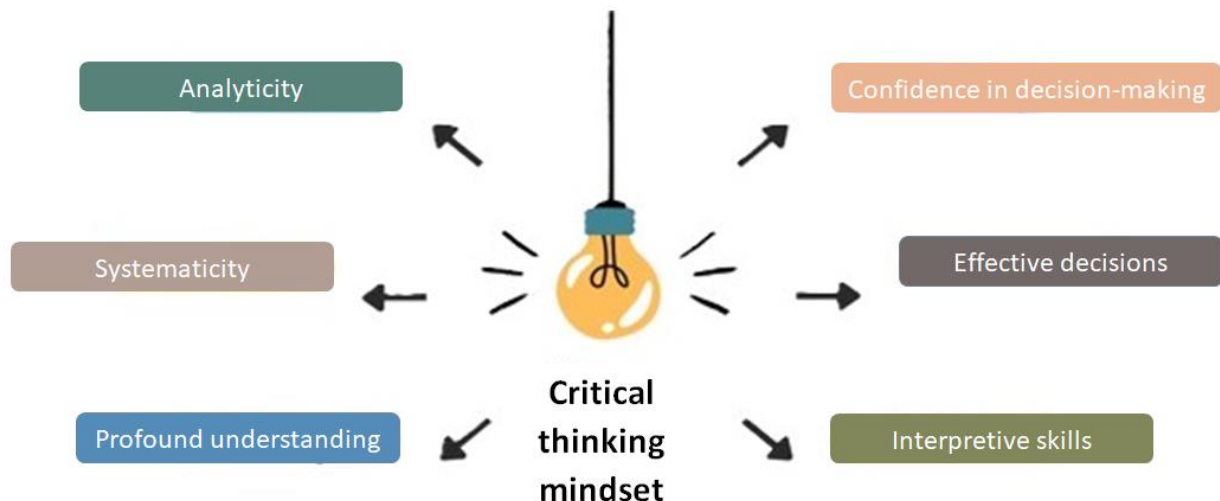


Figure 1. Critical thinking mindset (according Paul & Elder, 2006)

Also, at the organizational level, employers indicated that people who demonstrate critical analysis and evaluation skills often also reflect analyticity, systematicity, and confidence in making decisions regardless of their profession (Penkauskienė et al., 2019). The ability to critically analyze and validate information in an increasingly changing business environment enables employees to adapt the most effective decisions so that the organizations in which they perform maintain their competitive advantage.

Dimensions of CT

The Washington State University (2026) guidelines define seven essential elements of CT: identifying a problem or situation, establishing a perspective about the situation under analysis, recognizing an alternative perspective, placing the problem in an appropriate context, identifying, analysing, and evaluating evidence, recognizing underlying assumptions representing the problem, analysing and evaluating implications and potential conclusions (Kumar & Refaei, 2017; Condon & Kelly-Riley, 2004).

American Philosophical Association Delphi Project experts identify the following set of cognitive skills as the central dimensions of CT: Interpretation, analysis, evaluation, inference, explanation, self-regulation (Figure 2) (Facione, 1990).



Figure 2. Critical thinking dimensions (according Facione, 1990)

Each of the six skills described comprises subordinate skills.

Interpretation: represents understanding and expressing the meaning or significance of a wide variety of experiences, situations, data, events, judgments, opinions, rules, procedures, or criteria. Interpretation includes three sub-skills: categorization, decoding meaning, and clarifying meaning.

Analysis: the person identifies the actual and intended inferential relations by the interlocutor among the statements, questions, concepts, descriptions, and any other forms of representation that he uses to express his opinions, judgments, experiences, reasons, or beliefs. Analysis involves: examining ideas, detecting arguments; and analyzing them.

Evaluation: the person evaluates and weighs the credibility of statements or representations that are brought to support the perceptions, experiences, judgments, beliefs, or opinions issued by another person. The sub-skills of this part of CT are the evaluation of statements and the evaluation of arguments.

Inference: a critical thinker who is engaged in a process of inference identifies and provides the necessary elements to draw sustainable conclusions. He formulates hypotheses, considers relevant information, and evaluates the consequences arising from data, statements, evidence, principles, concepts, opinions, beliefs, or other forms of representation. The inference sub-skills are as follows: questioning the evidence, conjecture of the alternatives, and concluding.

Explanation: when we explain something, we justify in terms of conceptual, methodological, criterion-related, and contextual evidence what someone claims as a result. The sub-skills are specifying the results, justification of the procedures, and presentation of arguments.

Self-regulation – implies the conscious monitoring of one's cognitive activities, of the elements used in those activities, and of the results obtained, all of which is done through the analysis and evaluation of reasoning and inferences and through concentration. Self-regulation is done by calling on two skills: self-examination and self-correction.

Critical thinking in adult education.

International scholarship review

Regarding adult education, CT is a very important skill that contributes to the development of lifelong learning to adapt quickly to the challenges of the external environment and to take advantage of every opportunity.

The role of the adult educator should be to facilitate CT. Facilitating CT is a crucial aspect of the role of an adult educator. Here's how an adult educator can fulfil this role effectively:

- 1. Creating an open learning environment:** An adult educator should establish a classroom or learning environment where students feel comfortable expressing their thoughts and opinions freely. Encouraging open dialogue fosters CT by allowing students to explore diverse perspectives and challenge assumptions.
- 2. Asking thought-provoking questions:** Instead of simply delivering information, an adult educator should pose thought-provoking questions that stimulate CT.
- 3. Encouraging inquiry and exploration:** Adult educators should encourage students to ask questions and seek answers independently. By promoting inquiry-based learning, educators empower students to explore topics in-depth, conduct research, and develop their CT skills through active engagement with the material.
- 4. Providing opportunities for reflection:** Reflection is essential for deepening understanding and refining CT skills. An adult educator should incorporate opportunities for reflection into the learning process, such as journaling, group discussions, or reflective essays, allowing students to assess their learning progress and identify areas for growth.
- 5. Fostering collaboration and debate:** Collaborative learning environments promote CT by exposing students to diverse perspectives and fostering constructive debate. An adult educator should facilitate group discussions, debates, and collaborative projects where students can engage with each other's ideas, challenge assumptions, and defend their viewpoints.
- 6. Modelling CT skills:** Adult educators should model CT skills in their teaching practices.
- 7. Providing constructive feedback:** Feedback is essential for guiding students' CT processes and helping them improve. An adult educator should provide timely and constructive feedback on students' ideas, arguments, and problem-solving approaches, highlighting strengths and areas for improvement.
- 8. Promoting metacognitive awareness:** Metacognition involves understanding one's thinking processes and strategies. An adult educator should help students develop metacognitive awareness by encouraging them to reflect on how they approach learning tasks, monitor their understanding, and adjust their strategies as needed to enhance their CT skills.

Overall, facilitating CT creates a dynamic learning environment that promotes inquiry, reflection, collaboration, and metacognition, empowering students to become independent and critical thinkers capable of navigating complex challenges in their personal and professional lives.

In the context of adult education, Brookfield (1987) proposes a model of CT that consists of a five-phase approach: a triggering event, an examination, an appreciation of the situation, analysis of data to explain all anomalies, development of an alternative perspective, and integration of all aspects and perspectives into the structure of life (Figure 3).

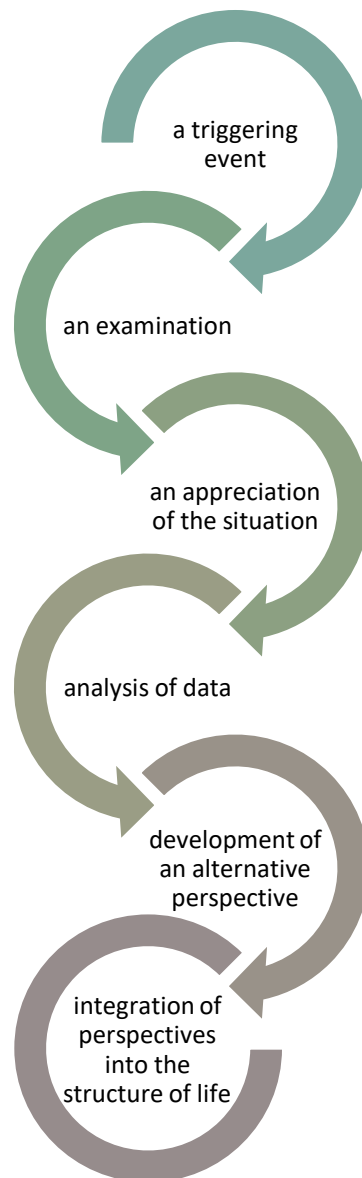


Figure 3. Critical thinking model (Brookfield, 1987)

Garrison (1992) suggested a conceptual model for developing CT in adult learners (Figure 4):

1. problem identification – an initial phase of CT;
2. problem definition – thinking becomes directed and purposeful;
3. exploration – from the world of facts to the world of ideas;
4. applicability – ideas are explored through abstract thought;
5. integration – the final phase, represents the applicability of the idea.

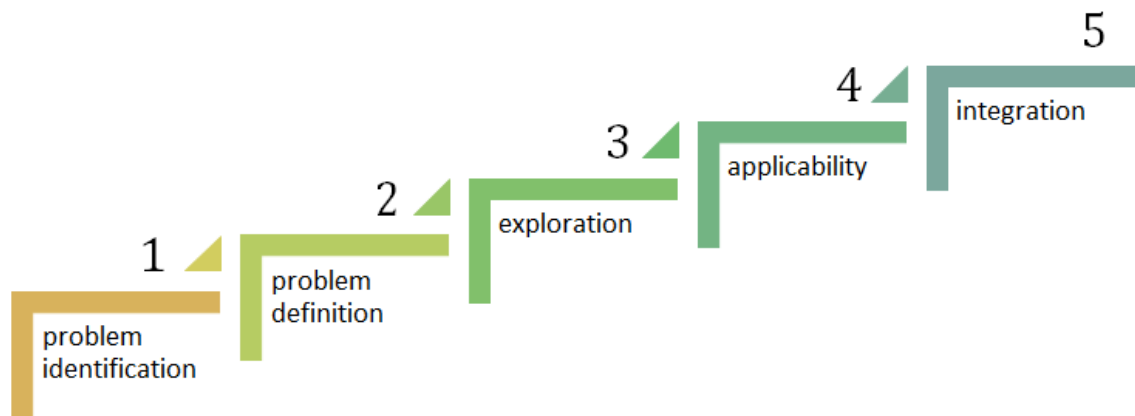


Figure 4. Model for developing CT in adult learners (Garrison, 1992)

Content, teaching strategies and issues regarding critical thinking in adult education

The literature on CT in adult education, though limited, provides valuable insights for trainers and curriculum developers. Various researchers have contributed to understanding and fostering CT skills in adult learners through different approaches and strategies.

Santos-Meneses et al. (2023) address the CT deficiencies among graduates and adults, emphasizing the need for CT skills in the workplace. They advocate for combining online learning with student-centered methods like problem-based learning. Their earlier work, along with Sadova et al. (2022), includes developing a computer-based test to assess CT in adult learners.

Garrison (1992), a pioneer in distance learning, explores integrating frameworks of CT and self-directed learning in adult education. Garrison emphasizes the importance of continuous dialogue between learners and facilitators to balance control in education.

Brookfield et al. (2018) link evaluative thinking with CT to enhance evaluation practices in adult education at multiple levels. At the macro level, they emphasize the role of evaluation in promoting the common good. At the meso level, they focus on evaluators' professional growth and development. At the micro level, they highlight day-to-day reflective practices, and at the meta level, they discuss meta-reflection, or reflection on reflection.

Brookfield (2013), in his work “Powerful Techniques for Teaching Adults” examines the concept of power in adult education and its implications for teaching. He identifies three connotations of power: as a charismatic force, as a controlling force, and as a means for learners to decide their learning content and methods, thereby empowering them to apply new skills outside the classroom.

Grenier et al. (2022) explore book clubs as non-formal learning spaces in organizations that foster critical public pedagogy. They emphasize the creation of social bonds, intentional engagement, and systematic reflection within book clubs. These spaces support marginalized individuals' personal and professional growth by fulfilling unmet psychological needs.

Vaske (2001) reviews different models for developing CT in adult education, including the problem-solving model, perspective transformation, and a five-phase model of CT. Vaske also references Brookfield (1986), who offered principles for effective facilitation of learning, such as voluntary participation, mutual respect, collaboration, praxis, critical reflection, and self-direction. Vaske highlights the difficulty of assessing CT due to its complexity.

Kokkos (2013) suggests using Art to enhance CT skills in older adults. He argues that engaging with art helps older adults overcome stereotypes and misconceptions that hinder their understanding of the world.

Terenko (2019) discusses the North American model of adult education, which focuses on lifelong learning driven by social and economic changes. This model emphasizes internal motivation linked to personal goals.

Schoultz (2023) describes the Nordic and German *Didaktik* tradition, which emphasizes reflective teaching practices and the concept of *Bildung*. This tradition focuses on personal development and growth through education, with a dialogical approach that considers older adults' emotional, cultural, psychological, physical, and social needs.

Gal et al. (2020) highlight the importance of numeracy as a critical component of adult learning, encompassing financial, health, digital, and civic literacy. Developing critical numeracy skills is essential for adults' participation in society and the labour market.

Santos-Meneses et al. (2023) propose a model for CT development in adult education based on intrinsic motivation and learning flexibility. They assert that while self-learning is important, collaborative learning remains crucial for effective CT development in adults.

The benefits, significance and results of the critical thinking interventions in adult education

The research captured in this compendium on the topic of CT in adults highlights a series of benefits of developing CT in different contexts, formal or less formal.

Rapid technological, scientific, economic, and social changes and developments increasingly require adults to have more critical and reflective reasoning skills and the ability to recognize, interpret, and understand a broadening spectrum of manifestations or contributions of mathematics, statistics, and numeracy across a wide range of life domains. (Gal et al., 2020)

Terenko (2019) analyses the American scientific literature on adult education, and shows that USA adult education is viewed as an organized educational process that helps an adult to acquire new knowledge, skills and competencies.

We think this view should apply to any country and person who has basic education; it presupposes all types of education, with accreditation and without accreditation: formal, informal, non-formal; it comprises different types of learning organization – traditional and distant; it can be organized not only in classes but in workshops, libraries, churches, museums, at home; can be organized by different providers – private personalities, volunteers, community. So, the reviewed scholarship focuses on the necessity of CT development in different learning contexts.

Some studies focus on the benefits of developing CT in employees, but also the need of employers to develop CT skills through training (Sadova et al., 2022)

Other studies focus on the motifs of attending non-formal education. One study focuses on three themes: education as enjoyment, education as critical inquiry, education as resocialisation and tries to identify methods and the learning processes taking place in the educational practice. Four principles were identified in this context: students' active participation, teachers' distinct guidance, individualization, and a permissive environment. (Schoultz, 2023). In the theme of students' active participation, the teachers engage the participants in discussions so that involves them in the learning process. The theme of teachers' distinct guidance implied lecturing, feedback and demonstration. Individualization was outlined as another principle and involved individual work during the course sessions and homework, but also adaptations, such as the learning tempo in a course. Letting the participants work on their own allowed the participants to be more responsible for their learning processes, more active and creative.

The theme of a permissive environment was about creating a comfortable atmosphere, emboldening the participants and paying attention to them.

Other studies are focused on the CT development in a particular background (cultural and religious education) (Altineyelken, 2021) or provide useful strategies suggestions for stimulating CT development: multiple written assignments and emphasizing research, providing detailed feedback on scholarship, logic, and style, and using online discussion forums to extend classroom discussion to promote deeper thinking and scholarship through questioning and challenging student posts and individual or team presentations in the classroom (Nold, 2017)

Regardless of the type of research, we can observe the need for a conceptualization of CT for a narrower conceptualization of CT (Vaske, 2001) but also the lack of tests for assessing CT competence in adults (Sadova et al., 2022).

Recommendations and further developments

The most relevant articles selected for the approach of CT in adult education are highlighted by the quality of the research carried out by the authors, by the originality of the ideas, by the methods and tests applied, as well as by the impact of the papers and their contribution to the development of the field studied. Thus, among the remarkable recommendations and future research directions the following articles can be mentioned (Figure 5).

- 1 • Santos-Meneses, L. F., Pashchenko, T., & Mikhailova, A. (2023). *Critical thinking in the context of adult learning through PBL and e-learning: A course framework.*
- 2 • Vaske, J. M. (2001). *Critical thinking in adult education: An elusive quest for a definition of the field.* Doctoral dissertation.
- 3 • Sadova, A. R., Khill, J. S., Pashchenko, N. V., Tarasova, K. V. (2022). *Critical thinking assessment in adults: methodology and development experience.*
- 4 • Kokkos, A. (2013) *Critical thinking in older adult education: The contribution of aesthetic experience.*
- 5 • Grenier, R. S., Callahan, J. L., Kaepfel, K., & Elliott, C. (2022). *Advancing book clubs as non-formal learning to facilitate critical public pedagogy in organizations.*
- 6 • Schoultz, M. (2023). *Teachers' reflections on their practices in older adult non-formal education.*
- 7 • Gal, I., Grotlüschen, A., Tout, D., & Kaiser, G. (2020). *Numeracy, adult education, and vulnerable adults: A critical view of a neglected field.*
- 8 • Nold, H. (2017). *Using critical thinking teaching methods to increase student success: An action research project.*

Figure 5. Reading cards

The main features from the search literature are as following:

1. Model for cultivating CT

Santos-Meneses et al. (2023) propose a model for cultivating CT in adult learners, focusing on integrating individual responsibility and common control in the learning process. They emphasize the need for developing integrated models based on key concepts like responsibility and control to better understand adult learning.

2. Self-directed learning and critical theory

Garrison (1992) advocates for a CT learning model that incorporates self-directed learning principles, suggesting a paradigm shift towards a coherent framework in adult education.

Archibald et al. (2018) highlight the intrinsic link between adult education and CT, emphasizing the importance of critical evaluation, reflection, and the pursuit of justice, common good, and equality in educational practices.

3. Key questions in adult education

Vaske (2001) identifies three critical questions for adult education: the purpose and work of adult education in the 21st century, the evolving roles of adult educators in social development, and the significance of CT in adult education practice.

4. Assessment of CT

Sadova et al. (2022) recommend developing and validating tests to measure CT in adults, utilizing the Evidence Centered Design (ECD) approach and modern Item Response Theory (IRT) for psychometric analysis.

5. Aesthetic experience and CT

Kokkos (2013) explores the influence of aesthetic experiences on strengthening CT skills in adults, suggesting that integrating art into the learning process can significantly enhance CT if made a consistent component rather than an occasional method.

6. Procedural characteristics of adult education

Terenko (2019) provides insights into the Northern American model of adult education, focusing on procedural characteristics and suggesting future research directions to analyze these characteristics further (Figure 6.)

7. Book clubs as non-formal learning spaces

Grenier et al. (2022) present book clubs as non-formal learning spaces that promote social connections and cultural change. They emphasize book clubs' potential as critical and emancipatory spaces for adult learning.

8. Collective learning and intrinsic values

Schultz (2023) underscores the importance of moving away from traditional lecture-oriented models to collective learning approaches in non-formal adult education. He emphasizes the need for educational meetings that facilitate development by linking past, present, and future experiences.

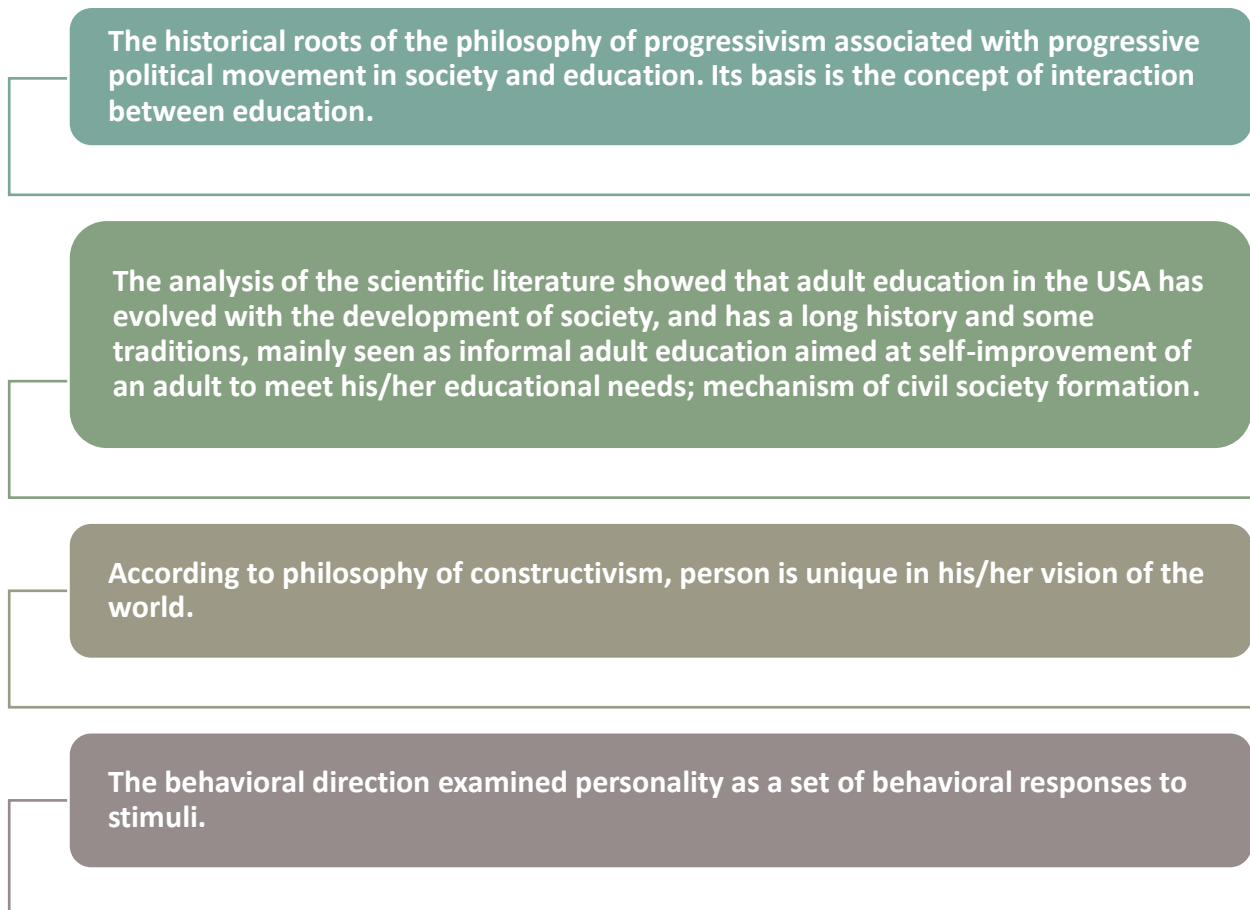


Figure 6. The Northern American model of adult education (Terenko, 2019)

9. Book clubs as non-formal learning spaces

Grenier et al. (2022) present book clubs as non-formal learning spaces that promote social connections and cultural change. They emphasize book clubs' potential as critical and emancipatory spaces for adult learning.

10. Collective learning and intrinsic values

Schultz (2023) underscores the importance of moving away from traditional lecture-oriented models to collective learning approaches in non-formal adult education. He emphasizes the need for educational meetings that facilitate development by linking past, present, and future experiences.

11. Future research directions in numeracy

Gal et al. (2020) suggest numerous future research directions to inform policy and plan educational interventions in adult numeracy programs, emphasizing the need for evidence-based practices.

12. CT in university curricula

Herbert (2017) recommends that universities incorporate renowned methods into their curricula to develop CT skills among students, highlighting the crucial role of higher education in fostering CT.

Overall, the **recommendation points to the need for innovative, integrated approaches to fostering CT in adult education**. There is also need for further research into effective assessment methods, the integration of arts and non-formal learning spaces, and the development of educational frameworks that emphasize responsibility, control, and intrinsic values. The focus is on creating holistic and adaptable educational environments that address the diverse needs of adult learners.

National literature review

Croatian experience in fostering critical thinking in adult education

We have analysed the current state and challenges of fostering CT and critical pedagogy within the Croatian educational landscape. However, the selected texts had been more related to general CT programs and only tangentially related to adult non-formal education of CT. Nevertheless, we present main ideas and insights as follows:

1. Definitions and conceptual understandings

There is a diverse understanding of what constitutes CT among Croatian educators and scholars. For some, CT is a rigorous, self-disciplined process involving logical reasoning and effective problem-solving skills (Bjelanović Dijanić, 2012). Others identify CT's role in interacting with others and making informed decisions (Grozđanić, 2009), while also highlighting its abstract and complex nature (Buchberger, 2012). This diversity in definitions serves to illustrate a lack of uniformity in understanding and applying CT across educational practices.

2. Integration into educational practices

While there is theoretical advocacy for the integration of CT and critical pedagogy in education, practical application remains inconsistent. For instance, Rautalin (2023) found that students often lack a comprehensive understanding of CT and critical pedagogy, pointing to gaps in higher education curricula that fail to effectively interlink theoretical knowledge with practical application. Similarly, Buchberger et al. (2017) highlight the discrepancy between theoretical frameworks and their operationalisation in classroom settings, indicating a necessity for more robust and systematic integration.

3. Pedagogical methods and teacher training

The literature suggests a critical need for enhancing teacher training and pedagogical methods to better foster CT. Rautalin (2023) and Majdak and Ajduković (2003) demonstrate that active learning methods and interactive teaching can significantly enhance students' engagement and CT abilities. However, there is also a recognition that many teachers may not be adequately prepared to implement these methods effectively. This is echoed by Miliša and Ćurko (2010), who call for systematic training programmes for teachers to incorporate CT into their teaching practices.

4. Challenges and recommendations

Several challenges impede the effective cultivation of CT in Croatia. These include:

- **Early and Continuous Development:** Initiating CT education at an early stage in primary school and continuing through secondary and higher education is essential to build a strong foundation (Bjelanović Dijanić, 2012; Miliša & Ćurko, 2010).

- **Teacher Training Programs:** The development of comprehensive training programmes for teachers is essential to equip them with the necessary skills and methodologies to foster CT in their students (Grozđanić, 2009; Majdak & Ajduković, 2003).
- **Active Learning Methods:** The encouragement of the use of active learning techniques and interactive teaching methods is crucial to engage students and promote deeper understanding and application of CT principles (Rautalin, 2023).

In conclusion, while Croatia recognises the importance of CT in education, as evidenced by scholarly discussions and some practical applications, there is significant work remaining in bridging the gap between the theoretical advocacy of CT and its practical implementation. In order to develop a robust framework for educational reform that effectively fosters CT skills, it is essential to implement systematic reforms in teacher training, curriculum design and pedagogical methods. By addressing these challenges, Croatia can better prepare its students to navigate and succeed in a complex, information-rich world.

Lithuanian experience in fostering critical thinking in adult education

The interpretations and applications of the concept of CT in Lithuania, as examined in various scholarly works, demonstrate the significant role this cognitive skill plays across different domains. A synthesis of the main findings and conclusions from the provided texts is presented below.

1. Interpretations of the concept of CT

CT is essential for individual and societal welfare. The 2018 article by Indrašienė et al. emphasises the crucial role of CT for personal and societal welfare. It is identified as a pivotal competency that is essential for effective participation in both daily life and the labour market. The capacity to engage in CT enables individuals to make informed decisions and solve problems, which are essential qualities sought by employers.

A multidisciplinary approach was employed. The article employs a multidisciplinary approach to elucidate the concept of CT, integrating insights from diverse disciplinary perspectives. This comprehensive analysis reveals that CT encompasses both cognitive skills and dispositions that facilitate decision-making and problem-solving.

The educational context is also considered. The article also considers how CT is addressed in higher education. The article posits that although CT is associated with academic success and employability, its practical application in real-life contexts requires further investigation.

2. Links between critical and creative thinking

Penkauskienė (2016) examines the interrelationship between critical and creative thinking, emphasising their indispensable role in attaining personal and professional success. The article challenges the notion that critical and creative thinking are distinct entities, instead

emphasising their shared characteristics, including curiosity, openness to new experiences, and the capacity to reflect and analyse.

The study indicates that although educators recognise the importance of both critical and creative thinking, there is often a discrepancy between their recognition of the importance of these skills and their ability to foster them effectively in students.

3. The application of critical thinking in consultancy

The importance of CT for consultants. In their 2021 study, Tolutienė and Butėnienė examine the manner in which CT is applied by employment service consultants. The research findings indicate that CT is a fundamental aspect of providing quality counselling. It enables consultants to gain an understanding of their clients' needs, analyse problems, and offer effective solutions.

The article emphasises the importance of continuous self-reflection, problem-solving, and professional development for consultants in order to maintain and enhance their CT abilities.

4. The education of critical thinking: risks and contradictions

Saulius (2016) raises concerns about the vague and sometimes contradictory nature of CT as it is applied in higher education. He posits that the undue emphasis on CT may result in a narrow pragmatism that is indifferent to more expansive philosophical and interpretive inquiries.

The necessity for broad-minded education: The article proposes an educational approach that cultivates broad-minded and independent thinking, rather than merely focusing on employability and market competitiveness.

5. The relevance of critical thinking to the labour market

Indrašienė et al. (2020) offer insights into how employers perceive CT in the workplace. It is evident that employers place a high value on CT, as it enables them to make reasoned decisions, innovate in problem-solving, and enhance operational efficiency. The study identifies a discrepancy between the CT skills that are promoted in educational policies and the actual needs of the labour market. Employers anticipate that employees will be able to apply CT in practical, real-world scenarios, underscoring the necessity for enhanced congruence between educational and occupational requirements.

6. The significance of critical thinking in academia

The study “Critical Thinking in Higher Education and the Labour Market” by Indrašienė et al. (2021) examines the conceptualisation of CT, its integration into higher education curricula, and its significance in the labour market. The authors emphasise the contextual and multidimensional nature of CT, addressing issues such as the lack of clear definitions and insufficient coordination in developing these skills within educational institutions. The study provides comprehensive insights through systematic literature reviews, program analyses, and mixed-method research. It offers recommendations to enhance CT development, emphasising the need for clear guidelines, practical applications, and interdisciplinary approaches.

The exploration of CT in Lithuania reveals its recognised importance across various sectors, from education to the labour market. Nevertheless, there are significant obstacles to the effective integration and application of CT skills in real-world contexts. It is recommended that

educational institutions place greater emphasis on the practical applications of CT, ensuring that students are equipped with the abilities required by employers. Furthermore, there is a necessity for continuous professional development and self-reflection among practitioners in order to maintain and enhance their CT competencies. Addressing these gaps can help bridge the disconnect between academic training and labour market demands, ultimately fostering a more critically minded and adaptable workforce.

Latvian experience in fostering critical thinking in adult education

In the study “Critical Thinking Education, Media Literacy, Judgement” led by scientific editor Prof. Kūle (2018) and conducted at the University of Latvia in collaboration with various departments and institutions, explores conjoined aspects of CT, media literacy, and judgement. The study extends beyond the domain of education to address the broader societal implications of CT skills. The study provides insights and recommendations for decision-makers, advocating for the promotion of CT abilities across different sectors. The study specifically evaluates the current state of CT in education, examines the intersection of CT with media literacy, and offers strategies to foster a critical perspective on information dissemination, particularly in the digital age. The study's analysis and recommendations are designed to equip individuals with the necessary skills to analyse, evaluate, and make informed decisions amidst the deluge of information in contemporary society.

In a methodological material, published in 2010, authored by the Education Development Centre (EDC), “Thinking Art for Everyone or How to Think with Joy and Excitement” (Izglītības attīstības centra, 2010), comprises analytical articles contributed by various professionals, including education experts, journalists, and politicians. The publication serves as a guide for fostering a culture of CT in Latvia, empowering individuals to navigate complex issues and contribute meaningfully to society. Through real-life examples and practical exercises, the authors try to encourage individuals to reflect on their thought processes, explore diverse perspectives, and apply CT skills in decision-making and problem-solving scenarios.

Concluding, the promotion of CT enables individuals to navigate challenges, distinguish between truth and misinformation, and engage in constructive dialogue and problem-solving processes.

Romanian experience in fostering critical thinking in adult education

The article “Adult Training in Romania – Critical Analysis” (Mihaila & Paduraru, 2017) provides an in-depth examination of adult education in Romania, elucidating the institutions involved, prevailing trends, and factors influencing adults' choice of training courses. The authors employ a quantitative research approach involving 114 adult respondents to explore the opinions and considerations guiding adults' decisions regarding training participation. The study emphasises the necessity of more effective promotion of training courses and closer alignment with the

demands of the labour market. In conclusion, the findings indicate a need for greater attention to be devoted to enhancing accessibility to training opportunities and ensuring their relevance to workforce needs in Romania.

Why do adults need critical thinking?

In the face of global issues, CT becomes an integral part of the basic skills needed for a successful future life (OECD, 2018). CT has been declared by the World Economic Forum (2020) as one of the most significant skills in the labour market. This skill is relevant to all levels of education from preschool, general, and higher education to professional training as a lifelong learning competence (Indrašienė, et al., 2021; Halpern, 2014; Brookfield, 2012; Apple, 2006).

CT in today's digital era is necessary more than ever. We are constantly bombarded with an endless amount of information.

Believing everything you read posted anywhere should always be followed by a thought, who wrote this, or where is it posted? Is it a trusted and respectable source? Today when every piece of information that you need is available with a click or a scroll, CT is more important than ever. Social media has changed the landscape of humanity. It is a fact. Research conducted by Stanford University provided results where it has been detected that social media may diminish the amount of mental capacity that we spend on any given problem or task. People read fewer books, and their primary sources of information are social media or online information in general. It is imperative to encourage CT in all areas of life.

Overall, CT is an indispensable skill that empowers adults to navigate the complexities of modern life, make informed choices, solve problems effectively, and contribute positively to society.

Adult education is intended to lead to the formation of skilled workers who possess the CT and problem-solving skills to enable them to succeed in an economy where change is occurring at an accelerating speed (Arend, 2011). CT enables employees of organizations to analyse complex problems by focusing on the desired outcome (Power, 2016), allowing them to think creatively, independently, make decisions, take measures and reach conclusions for the situations investigated (Indrašienė et al., 2021; Tripathy, 2020; Ahrari et al., 2016; Abed et al., 2015; Piawa, 2010; Hassan & Madhum, 2007). Many researchers tend to link CT to other particularly important skills such as *reflection* and *creativity* (García-Moro et al., 2021).

CT is often combined with other skills (such as self-reflection, innovation, creativity, ability to synthesize, and effective communication) because it leads to the identification of the most appropriate solutions to the problems under consideration. Employees of organizations explore and analyze the events they encounter from multiple perspectives, thus CT can stimulate creativity among them challenging them to find innovative responses and reach justified and informed conclusions. The ability to think critically along with other skills allows adults to continuously improve their professional level, adapting to the demands of the labor market. CT also contributes to improving *collaborative relationships between employees* in an organization,

because people who think critically can justify their ideas and work effectively with others to achieve common goals.

Creating a supportive learning community where ideas are shared, listened to, and critiqued encourages CT and the evaluation of various alternatives.

Qualitative research. Experts' interviews

During brainstorming research methodology regarding CT in adult education, the research team decided to develop an online written interview guide to gather opinion from the research team and significant colleagues, persons involved either in CT development, or in adult education.

The interview guide comprises 7 questions:

1. Why do adults need to think critically?
2. How does the development of CT in adults impact family and friends?
3. How does developing CT in adults affect broader social interactions?
4. How does the development of CT in adults impact their work?
5. How does developing CT in adults affect processing information in the online environment?
6. Does the development of CT have any negative impact on adult life? Please, explain.
7. Please write any other thoughts related to the subject that were not represented above.

Only the first question was mandatory, each respondent will have to choose if it answers to all remaining questions or to some of them. Five experts responded to the interview and their responses allow us to share some of ideas of the research team, sharing their experience and expertise.

The opinions converge to the fact that CT is an **everyday life skill**, and they also converge with the general principles of wider literature regarding CT and adult education. Daily challenges, like disinformation, fake news, manipulation, can be tackled with **CT as an antidote**. Role models of adults using CT represent a high impact factor to family and friends' life, as well as honest, less biased opinions that one can offer to colleagues and family member.

” *It [CT] has direct impact, because it creates a culture of mutual communication, in terms of being open to the different points of view, respectful and less biased, honest. Critically minded adults may serve as role models for their family members, friends, and colleagues (Expert 4)*

Developing CT contributes to better management of interpersonal relationships

” *so, they could manage their lives wisely – to be masters of it. Also, to be able to understand and react appropriately to what is happening in the world, especially to manipulations. To be always on the side of justice and truth.* (Expert 1)

CT brings **wise decisions** and **wider understanding**. Questioning should be engaged to provide fact checking and supplementary information:

” *A critically thinking adult will always question the information and seek several sources to find the answer to the question.* (Expert 2)

Critically minded persons are able to sort out the information, to read "between lines" and to make informed decisions. They also express their opinions online only if they are evidence based and are not biased. (Expert 3)

Regarding the broader social impact within their lives, the experts said that critically minded people can recognise unfairness and injustice and are prepared to speak out against it. They take a stand on important social issues and are not deterred by possible negative consequences in their pursuit of truth and justice. The development of CT promotes an active role in lifelong learning and social processes. While education and the exercise of good judgement do not guarantee happiness or economic success, they significantly increase the chances of achieving these goals. In addition, CT helps to better understand life situations and to improve relationships with others.

In the complicated and complex life of an adult, CT spirit might bring negative outcomes to the subject. Three of the experts had this opinion, and two experts said that there are no negative consequences of using CT.

” *Critical thinking makes the lives more complicated and even dangerous. Many people decide not to express their critical thoughts because they might lose jobs, friends, and even be killed (like Khodorkovsky).* (Expert 1)

Critical thinking is about how you approach problems, questions, issues. It is the best way we know of to get to the truth. However, there still are no guarantees, no answers to all our questions in real life. (Expert 2)

Regarding definition of CT, the experts confirm definitions presented in the first section of this paper, more specifically, interpretation, analysis, evaluation, inference, explanation, and self-regulation are mentioned as CT skills. Although no dispositions or standards were mentioned, from the received answers we can identify analyticity, truth-seeking, open-mindedness, as well as clarity, accuracy, autonomy or civility.

Conclusions

The current literature on CT in adult education reveals a significant gap in both theoretical and practical frameworks. The need for CT skills in the workplace is recognised, and innovative pedagogical approaches such as online and problem-based learning are advocated. However, the assessment of CT remains a challenge.

Several models and strategies have been proposed for effectively integrating CT into adult learning. Key approaches include the importance of learner-facilitator dialogue and learner empowerment. In addition, linking evaluative thinking with CT is suggested to enhance professional practice.

Non-formal learning environments, such as book clubs, have shown promise in promoting CT through social connections and reflective engagement. Integrating the arts and focusing on numeracy further enriches CT approaches in adult education.

Different pedagogies are at the heart of different educational traditions. The North American model centres on lifelong learning and adaptability to economic change. Reflective teaching practices from Nordic and German traditions also offer valuable perspectives. A comprehensive competency framework for adult educators emphasises the importance of pedagogical, relational, contextual and reflective skills.

Promoting CT in adult learning calls for multiple strategies. This includes learner-centred methodologies, continuous reflective practice and supportive learning environments that encourage both individual and collaborative learning. The ultimate goal is to equip adults with the CT skills necessary for personal and professional success in a rapidly changing world.

ANNEX I. Reading cards for international literature

Critical thinking and self-directed learning in in adult education: an analysis of responsibility and control issues

Title of the article/chapter/book: Critical thinking and self-directed learning in in adult education: an analysis of responsibility and control issues

Author(s): D. R. Garrison

Publication date: 1992

Available at: https://www.researchgate.net/publication/254075067_Critical_Thinking_and_Self-Directed_Learning_in_Adult_Education_An_Analysis_of_Responsibility_and_Control_Issues

Summary: Two dominant theoretical frameworks in adult education are CT and self-directed learning. This article is an analysis of the fundamental premises of these constructs in an attempt to link these 2 frameworks in a more integrative and explanatory view of adult education than is possible through each individual concept. The article argues that responsibility and control issues are fundamental to both CT and self-directed learning. The discussion is intended to contribute to our understanding of the premises and essence of adult learning and education and to stimulate further reflection on CT and self-directed learning

What is CT for the author(s)?

CT may be precipitated by a problem or disorienting event; however, it is the responsibility of the individual to make sense of the situation by integrating new ideas with previous knowledge and experience. At the same time, critical self-reflection is not sufficient to generate knowledge. True integration of new perspectives and eventual knowledge development requires that we act upon them and share our understanding with others. There must be iteration between collaboration (shared world) and reflection (private world) to confirm new ideas and perspectives through experience. The issue of controversies about collaboration, while reflection necessitates that the individual take responsibility for constructing meaning.

Issues addressed (main idea of the article/publication)

- Self-directed learning and CT are both worthwhile frameworks. There is no readily apparent superiority of one over the other. They simply apply to different domains of the adult education enterprise. Therefore, it would appear prudent to attempt to unify or integrate the two frameworks for a more comprehensive and coherent understanding and explanation of adult education;
- The position of this paper is that the search for a framework of adult education should begin by identifying the fundamental concepts and issues of its two preeminent theoretical frameworks.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The author discusses few models of CT: Dewey's, Brookfield's; Mezirow's; Garrison's. The author discusses the concepts of self-directed learning. The author unites CT and self-directed learning concepts through responsibility and control in education and argues about the balance between those

two – only through continuous and critical dialogue between learner and facilitator can a dynamic and optimal balance of control be realized. The author presents ideas on how to connect CT and self-directed learning referring to R. Paul, Mezirow, and himself.

The benefits, significance, and results of the CT interventions in adult education presented above

- CT is a useful and powerful construct in adult education with which to understand learning and knowledge development. The issues of responsibility for constructing meaning and sharing control of the process of validating knowledge are evident in the constructs of CT;
- Adult education has simultaneously been promoted as a collaborative process and as a self-directed learning process. Too often, however, these processes are not discussed in the same context. What is argued here is that they are, in fact, aspects of the larger educational process. Self-directed learning as an autonomous and isolated activity does not, or should not, exist in adult education; nor should collaborative learning that does not include learners who have taken responsibility for constructing their meaning. Collaboration and self-direction are necessary aspects of a CT learning process.

Authors' recommendations and further developments

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The article just read inspired you to formulate another recommendation or further development? Our insight.

The challenge is to integrate individual responsibility and shared control in the learning process. Consideration should be given to developing integrative models based upon fundamental concepts such as responsibility and control in order to define the essential nature of adult education. To think in terms of a paradigm shift is premature in a field which does not possess recognizable and generally accepted paradigm. As such, the search for a coherent framework in adult education should consider an approach that attempts to unify existing frameworks. An approach advocated here is to develop a CT learning model that incorporates the concept of self-directed learning (p. 13).

The critically reflective evaluator: Adult education's contributions to evaluation for social justice

Title of the article/chapter/book: The critically reflective evaluator: Adult education's contributions to evaluation for social justice

Author(s): T. Archibald, L. C. Neubauer, S. Brookfield

Publication date: 2018

Available at:

https://www.researchgate.net/publication/324565455_The_Critically_Reflective_Evaluator_Adult_Education's_Contributions_to_Evaluation_for_Social_Justice

Summary: The authors review a sampling of literature on critical theory and critical reflection in evaluation, framed in terms of how evaluation theorists conceptualize the role of values and valuing in evaluation and how they envision the role of evaluation in society. Then, explore some conceptual and practical overlaps between evaluative thinking, CT, and critically reflective practice. Finally, it examines the implications of critical evaluative thinking for social justice evaluation, touching also on what implications this work might have even for those evaluators who do not perceive linkages and overlap

between evaluative thinking and social justice. In doing so, they highlight new directions for the foundational training and continuing professional development of evaluation practitioners and scholars based on an examination of oneself and of one's paradigmatic assumptions through constant critical reflection, investigation, and action.

What is CT for the author(s)?

It is not directly said, but from the overall reading, one can get the impression, that the authors look at CT from a critical theory perspective.

Issues addressed (main idea of the article/publication)

- Understanding evaluative thinking as somehow linked to or overlapping with CT is fruitful; it provides new perspectives on the thinking and action that lead to high-quality evaluation practice by program implementers and evaluators alike.
- As CT and its variants like 'critical reflection' and 'critical pedagogy' have become more ubiquitous in educational thought and everyday discourse, they have also become declawed and domesticated.
- Reflective practice and evaluation intersect on at least four, relatively distinct though related levels: macro, meso, micro, and meta.
- The field of adult education has (sometimes forgotten) radical, critical, social justice-oriented historical roots.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

At the broadest (macro) level, there is a need and an opportunity for evaluators to reflect on their role, and on the role of their profession, in society at large. This level relates to the notion that evaluation is, or ought to be, a force for the promotion of 'the common good'.

The second (meso) level relates to "one's awareness of evaluation expertise and needs for growth, including knowing oneself as an evaluator, assessing personal needs for enhanced practice, and engaging in professional development.

The third (micro) level occurs in the day-to-day practice of evaluation, whereby evaluators engage in reflection-in-action to do their jobs well.

The fourth level involves meta-reflection on all three of the other levels of reflection. Meta-reflection (reflection on reflection) is the purview of much evaluation theory. Like metacognition, it has to do with thinking about how we think. In our case, it has to do with thinking about how one can 'think like an evaluator.

The benefits, significance, and results of the CT interventions in adult education presented above

Linkages between evaluative thinking and social justice highlight new directions for the foundational training and continuing professional development of evaluation practitioners and scholars demanding a "reflexivity practice" that examines oneself and one's paradigmatic assumptions through vigilant, constant critical reflection, investigation, and action. But what implications might this work might have even for those evaluators who do not perceive linkages and overlap between evaluative thinking and social justice? We believe that our analyses presented above, if included in foundational training programs for emerging evaluators, along with evaluation capacity building workshops, can help all evaluators—regardless of which 'branch' they find themselves perched on – more explicitly make and justify their positionality statements vis-à-vis the role of values in their work (understood generally, but also especially concerning specific value propositions about what constitutes 'the good life'). In doing so,

we highlight new directions for the foundational training and continuing professional development of evaluation practitioners and scholars based on an examination of oneself and of one's paradigmatic assumptions through constant critical reflection, investigation, and action (p. 9).

Authors' recommendations and further developments

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The article just read inspired you to formulate another recommendation or further development? Our insight

Rich theoretical article, based on critical theory ideas. The authors made a very clear connection between adult education as such (its roots) and CT, critical reflection and critical evaluation. They point out that all those concepts are naturally bound, as it is not possible to imagine adult education without a purposeful orientation towards justice, equality, the common good, etc.

Powerful techniques for teaching adults

Title of the article/chapter/book: Powerful techniques for teaching adults

Author(s): S. D. Brookfield

Publication date: 2013

Available at: <https://www.wiley.com/en-us/Powerful+Techniques+for+Teaching+Adults-p-9781118017005>

Summary: This book explores questions about how power, teaching, and adult learning intersect. The author assumes power is omnipresent in all adult learning situations in which someone is identified as the designated teacher. From adult higher education to corporate training, religious formation to social movement education, professional development institutes to community college classrooms, power dynamics endure. It doesn't really matter what the subject content is, teachers and learners constantly exercise power. He argues that a recreational class on local history is as much informed by power dynamics as a critical theory class studying the concepts of hegemony and dominant ideology. Anyone interested in empowering learners has to acknowledge that they are acting politically – in other words, to make power work on their behalf. The teaching is meant to prepare people to participate in deciding how they will use the resources available to them and how they will act in the world.

What is CT for the author(s)?

CT as the ability to understand the concept and role of power and empowerment in adult education

Issues addressed (main idea of the article/publication)

- The essence of powerful teaching.
- The omnipresence of power.
- How do adult teachers think about power?
- Sovereign (exercised from above by an authority figure who doles out rewards and sanctions) and disciplinary (the way we exert power on ourselves to make sure we keep within acceptable boundaries) powers.
- What does it mean to teach?
- What makes teaching adults distinctive?
- What is a powerful technique?

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

Power is the enduring reality of all kinds of learning settings. Adult learners exercise power when they suggest examples that clarify a concept or illustrate a principle, helping a discussion gather momentum. They support each other in powerful ways – building confidence, providing encouragement, and coming up with illustrations that explain complex ideas.

Even in recreational adult education classes where enrolment and attendance are wholly voluntary, power moves around the room in unpredictable ways. As an adult learner, one feels as foolish, ashamed, or angry in leisure classes as one has an experience in the most rigidly controlled and mandated learning environments.

One of the most frequently used words in the discourse of adult learning, power has three chief connotations. First, and most frequently, a powerful teacher or leader is often characterized as a person with charisma, wisdom, and presence – someone who can hold an auditorium in the palm of their hands or whose personality can fire people with enthusiasm for learning.

A second connotation of power is that it is a force used to intimidate, control, or bully. Whenever one is asked to complete a meaningless task, simply because my teacher has told me I must do this or risk failing the course.

The third way power is spoken of is particularly prevalent among trainers and educators of adults. This is the discourse of empowerment, where the point of learning is thought to be the development in learners of a sense of agency—a belief that they can accomplish something that previously had been considered unattainable or that they had never even imagined. An empowered classroom is usually thought of as one where students decide what they wish to learn and how they are going to learn it.

A powerful technique is understood in a similar way as a task, exercise, or activity that is so skilfully energizing that it cannot fail to activate students' enthusiasm, dispelling any resistance to learning they feel; it is a force used to intimidate, control, or bully; the discourse of empowerment, where the point of learning is thought to be the development in learners of a sense of agency—a belief that they can accomplish something that previously had been considered unattainable or that had they had never even imagined. An empowered classroom is usually thought of as one where students decide what they wish to learn and how they are going to learn it. An empowered learner is deemed one who applies the new skills learned in class to take action in the world outside.

To teach is to help someone learn. This may sound obvious, but for me it's a mantra that bears repeating every day. The point of teaching is to help someone acquire information, develop skills, generate insights, and internalize dispositions they did not know before. The incredible complexity of adult learners—the different ways they learn, the varied purposes they bring to learning, the cultural and political constraints they endure, and the multiple identities and backgrounds they exhibit—means we have to think of teaching in similarly complex terms.

The methodology of teaching adults is not different in kind from that of teaching children or adolescents. So, is there anything general that can be said about teaching adults? The first has to do with the reality of experience. As a general rule, the longer the time you spend on the planet, the more things happen to you and the more you interpret and give meaning to these experiences; Second, across multiple learning contexts most teachers of adults try to set a tone of respect towards their learners; third, an adult curriculum becomes one constructed around what any particular group contends are the distinctive roles and tasks people enact in adulthood. This is clearly culturally dependent; Fourth, and connected to the point above, adult teaching for me always has a distinct purpose of helping people learn how to exercise power on their own behalf.

A powerful technique comprises four possible elements: (1) it takes account of power dynamics; (2) it supports learners claiming empowerment; (3) it illuminates how power works; and (4) it renders teacher power transparent and open to critique.

Teachers of adults, even in non-credit classrooms where there is no formal evaluation by teachers and no compulsion for students to attend, need an understanding of how power dynamics constantly intersect with individual and group learning

The benefits, significance, and results of the CT interventions in adult education presented above

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Authors' recommendations and further developments

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The article just read inspired you to formulate another recommendation or further development? Our insight

This publication is a valuable resource for understanding the relationship between teaching adults and their learning in the context of power and empowering relationships

Critical thinking in adult education: An elusive quest for a definition of the field

Title of the article/chapter/book: Critical thinking in adult education: An elusive quest for a definition of the field (Dissertation)

Author(s): J. M. Vaske

Publication date: 2001

Available at: <https://files.eric.ed.gov/fulltext/ED456251.pdf>

Summary: The purpose of this study was to understand the meaning of CT in adult education. The analysis of data uncovered four themes based on participants' perceptions: (a) the goals of adult education, (b) conceptualizations of CT, (c) impacts on teaching, and (d) the importance of CT in adult education.

Four conclusions resulted from an examination of participants' perceptions as well as relevant literature. First, there are conflicting and contested goals of adult education. Second, there is little agreement about the conceptualization of CT by graduate faculty in adult education. Third, graduate faculty in adult education may or may not be fostering CT skills in their students. Finally, what matters in adult education may not be CT but critical reflection.

What is CT for the author(s)?

It appears that CT is firmly situated within the dual functions of adult education; namely, to promote individual growth and to maintain and/or promote a good society

"Critical thinking is not an abstract, rarefied academic process, observable only in college classrooms. It is an activity embedded in the vivid contexts of adult lives" (Brookfield, 1987, p. 228).

Issues addressed (main idea of the article/publication)

- What are graduate faculty members' perceptions and perceived practices of CT in adult education?
- A qualitative research approach, specifically grounded theory, was used to carry out the study.
- Analysis of the data showed that participants perceive that student development is the primary goal of adult education. In that section the author describes the two broad categories of student development that emerged from the data: (a) personal development, including the development of instrumental skills, psychological skills, and self-concept; and (b) sociocultural development with an emphasis on social reform.

Effective facilitators have knowledge in several areas, such as knowledge of CT, knowledge of adult learners, knowledge of effective teaching practices, and knowledge of evaluation strategies.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The author in the theoretical part presents several approaches to CT:

- Lindeman (1961) – problem-solving model with its process of identifying and challenging preconceptions or assumptions, exploring new ways of thinking, and then evaluating these ideas through the experience of living (similar to Brookfield).
- Mezirow (1981) – cycle of perspective transformation.
- Brookfield (1986) – a five-phase model of CT: a triggering event, appraisal of the situation, exploration to explain anomalies, development of alternative perspectives, and integration of tentative solutions into everyday living. Brookfield offered six principles that underlie effective facilitation of learning: voluntary participation by adult learners, mutual respect between learners and facilitator, collaboration among all group members (learners and facilitator), praxis (the alternating process of reflection and action), critical reflection (the fostering of a healthy skepticism), and self-direction (helping learners become more self-directed in their learning).
- Darkenwald and Merriam (1982) – recognizing a problem, analyzing it, discussing it in terms of other people's experiences and available information, using the information to formulate solutions, and acting upon the solution(s). Central to this model is critical reflection and problem-solving which they perceive as the preferred methods of adult education;
- What strategies and methods work for adult education: discussions; experiential learning methods; simulations; case studies; critical incidents; self-directed and collaborative learning methods; praxis and reflection methods; learners' networks.
- Difficulty to assess CT: CT is a complex construct and hard to quantify or grade.
- Effective facilitators must have knowledge in several areas including knowledge of CT, knowledge of adult learners, knowledge of effective instructional practice, and knowledge of evaluation strategies.

The benefits, significance, and results of the CT interventions in adult education presented above

Analysis of the data showed that participants perceive that student development is the primary goal of adult education. In that section, the author describes the two broad categories of student development that emerged from the data: (a) personal development, including the development of instrumental skills, psychological skills, and self-concept; and (b) sociocultural development with an emphasis on social reform.

Conceptualization of CT: narrower and broader conceptualizations of CT. The participants are placed into the categories according to their perceptions of four general criteria: attributes or characteristics of CT, whether an individual or group was engaged in CT, the process for doing CT, and the purpose of CT.

Participants perceived that two contextual factors - student diversity and the nature and level of courses taught in adult education – impacted their teaching. Regarding pedagogy, participants' teaching was impacted by their beliefs about the learning environment, curriculum, teaching processes, and evaluation methodology.

The importance of CT depended on views on the value of CT, the internal and external pressures they felt to teach CT, and factors they believed competed for their attention. Time, the nature of CT, and participants' beliefs about students' interests emerged as the competing factors.

Authors' recommendations and further developments

Questions and implications. The study produced more questions than answers. Three major questions are: (a) What is the work of adult education at the beginning of the 21st century? (b) If the field moves toward social development as a goal of adult education, what might adult educators need to understand about their changing work? (c) Given the current emphasis on *critical reflection*, does CT in adult education really matter? Adult educators concerned about these issues may wish to reflect critically on their practice, study the merits and drawbacks of moving from individual development and toward social development as the goal of adult education, and continue their dialogue on the goal(s) of adult education.

The article just read inspired you to formulate another recommendation or further development. Our insight

Very good material, despite the year of preparation: concise, based on relevant theoretical and empirical analysis.

Critical thinking assessment in adults: Methodology and development experience

Title of the article/chapter/book: Critical thinking assessment in adults: Methodology and development experience

Authors: A. R. Sadova, J. S. Khill, N. Pashchenko, K. V. Tarasova

Publication date: 2022

Available at: https://psyjournals.ru/en/journals/jmfp/archive/2022_n4/Sadova_et_al

Summary: The paper discusses the lack of tests for assessing CT in adults and describes the development of a validated test for measuring CT in adults. The test is computer-based and includes tasks to identify relevant behaviour.

The authors emphasize the need for employees with developed CT in various work contexts.

What is CT for the author(s)?

CT is described as a key competency in the modern world.

Issues addressed (main idea of the article/publication)

- Lack of tests for assessing CT in adults.

- Development of a validated test for measuring CT in adults.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The methodology/procedure for creating the measurement test for CT involved using the Evidence Centered Design (ECD) approach.

The test is performed in computer form and consists of tasks aimed at identifying relevant observed behaviour.

The test was developed for adult students of the training course “Critical Thinking” on the “Yandex Practice” platform.

The benefits, significance, and results of the CT interventions in adult education presented above

Lack of tests for assessing CT competence in adults.

Employers need to have employees with developed CT skills.

Authors' recommendations and further developments

The authors recommend using the developed test for measuring CT in adults.

The authors suggest exploring possible directions for future developments in this area.

The article just read inspired you to formulate another recommendation or further development? Our insight

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Critical thinking in older adult education: the contribution of aesthetic experience

Title of the article/chapter/book: Critical thinking in older adult education: The contribution of aesthetic experience

Author(s): A. Kokkos

Publication date: 2013

Available at: https://adulthoodeduc.gr/wp-content/uploads/attachments/Critical_thinking_in_Older_Adult_Education.pdf

Summary: The following paper is based on two assumptions. The first is that the skill of CT is necessary for seniors. They often shape their meaning perspectives by adopting stereotypes and myths that don't allow them to perceive situations in their personal and social life. The second assumption is that the exploration of works of art is one of the main ways that lead to the empowerment of CT. Our contact with art (aesthetic experience) may provide us with thoughts and insights that are distinct from the dominant ones and allow us to perceive various issues beyond the way that are considered as given.

What is CT for the author(s)?

CT is not reduced to analysing information but connects this process to values and commitments, which should orient the thinkers towards actions that should concern them but also the common good.

Issues addressed (main idea of the article/publication)

The following paper is based on two assumptions. The first is that the skill of CT is necessary for seniors. They often shape their meaning perspectives by adopting stereotypes and myths that don't allow them to perceive situations in their personal and social life. For instance, regarding educational inequalities, many dropouts assume that they themselves are responsible for their failure in school, and believe that they didn't have the will or the abilities to meet the demands of the educational system. The second assumption is that the exploration of works of art is one of the main ways that lead to the empowerment of CT.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

- From the above example, several encouraging indications could be drawn about the usefulness of the engagement of older adults with aesthetic experience, especially of those who have been deprived of familiarization with art.
- However, given that the use of the suggested method is in a stage of development, further research and practice are required to approach thoroughly issues like: the ways of older learners' participation during the phase of the selection of works of art; the process of receiving the aesthetic experience by the learners; the methods to access the whole process.

The benefits, significance, results of the CT interventions in adult education presented above

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Authors' recommendations and further developments

The author makes an attempt to define the concept of CT as learners' emancipation and later explains the reasons why aesthetic experience is important concerning the reinforcement of learners' critical mode of thinking. This aspect is wider discussed in the "Transformative Learning through Aesthetic Experience" (Kokkos, 2010). The author discusses role of art in adult and older adult education in a way that facilitates critical consciousness and involves an active participation of learners. Crucial issues that have emerged during the implementation of the method in Greece as well as through the European Grundtvig Project ARTiT (Hellenic Adult Education Association, n. d.) is discussed also. Finally, the author presents outcomes examples in a setting of older adult education.

The article just read inspired you to formulate another recommendation or further development? Our insight

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Advancing book clubs as non-formal learning to facilitate critical public pedagogy in organizations

Title of the article/chapter/book: Advancing book clubs as non-formal learning to facilitate critical public pedagogy in organizations

Authors: R. S. Grenier, J. L. Callahan, K. Kaepfel, C. Elliott

Publication date: 2022

Available at: <https://doi.org/10.1177/13505076211029823>

Summary: The book clubs are introduced as non-formal adult learning that employs fiction as a cultural artifact are presented as a way for members to build relationships, learn together, and engage in cultural change work.

The authors posit that book clubs operate as a form of non-formal management learning that may function as critical public pedagogy amongst members as they build trust, engage in collaborative learning, and shape social identities through dialogue and perspective-taking.

The authors see the functioning of book clubs ways: (1) pedagogically with members as both learner and teacher (Kooy, 2003, 2006; Smith, 1996); (2) transformational by changing members' opinions and mental models or even the values of a community (Howie, 2003); (3) through the negotiation of cultural influence and the production of meaning (Farr and Harker, 2008; Long, 2003); and (4) with a praxis that is uniquely suited to members' context (Hermes et al., 2008). Moreover, by reading fiction individuals can develop critical social awareness and empathy (Gouthro and Holloway, 2013; Hoggan and Cranton, 2015; Jarvis, 2012). This is especially true when the fiction is written from a non-dominant perspective that invites readers to learn about hegemonic forces and social structures (Slotkin, 2005) as revealed through a story, which can engender more empathy than non-fiction texts. When this occurs in an environment like book clubs, the book becomes a popular cultural artefact acting as a "public space" for critical, non-formal learning and "understanding of marginalized others and greater critical social awareness" (Jarvis, 2012: 743).

What is CT for the author(s)?

CT is not reduced to analyzing information. Authors link CT to building empathy, to consider alternative perspectives and to engage in perspective-taking.

Issues addressed (main idea of the article/publication)

In the adult education literature, non-formal learning is characterized as voluntary participation for personal enrichment with social processes such as group discussion and exploration. It is non-formal learning that promotes multiple levels of learning intentionality (Eraut, 2000) – deliberative, reactive, and implicit. Book clubs in organizations are a deliberative learning space because planning is done to create an environment for learning with intentional engagement and systematic reflection. It is also a space for reactive learning that is more spontaneous, with a varying degree of planning and intentionality, and a space for implicit learning that occurs unintentionally and sometimes unconsciously. Both reactive and implicit learning are socially constructed through group members' engagement—first with the text and then with each other. The authors state that the true value of a book club is in the relationships created through camaraderie and shared experiences as members connect.

In coming together to discuss a text, social bonds are created, which can lead to friendship. For marginalized members of a workplace, friendships can serve as spaces of social support that challenge internalized notions of inferiority and propel individuals' personal and professional growth because of the way they fulfil unmet psychological needs. It is also noted that are novel sites for learning, intellectual curiosity, and development.

Generally speaking, taking part in book clubs can help members learn as they engage in public speaking, expressing opinions, summarizing information, and presenting arguments.

In addition to relationship building and the learning gained from book clubs, members can also engage in cultural change work. Employees, and individuals generally, are more supportive of endeavors they are part of creating (Wheatley and Kellner-Rogers, 1998), making voluntary book clubs opportune places to initiate cultural change. Members can take part in critical readings as they take up stories that are not

their own and use the reading (and subsequent discussion) for “confronting times of individual or social change” (Long, 2003: 188). Book club members use texts and subsequent discussions to learn as they work through, reflect on, or address the social or political issues they encounter in their lives (Pulczynski, 2018)—at home, in their workplaces, or in society more generally. Their reading and discussion challenged members’ existing knowledge and led them to ask new questions, a process of both learning and unlearning. Their experiences are representative of book clubs that act as sites of cultural change in which members interrogate assumptions, narratives, and long held practices. To do this, members must read critically, which is to recognize that reading “can never be divorced from questions of power, privilege, exclusion, and social distinction” (Long, 2003, p. 16).

The act of critical reading leads book club members to share experiences and build perspectives, not only with each other but with the characters in the text. As individuals read, they construct simulated worlds and these simulations involve imagining the feelings of those in the text. Reading, then, is capable of building empathy for a larger range of characters and identities than readers normally interact with in life, and this has the potential to reduce bias against those with whom we do not share characteristics (Oatley, 2016). Critical reading prompts individuals to consider alternative perspectives and to engage in perspective-taking, both of which are effective strategies that have been found to reduce bias (Blair et al., 2001).

Book clubs are consistent with more emancipatory forms of learning that reject the inundation of knowledge from an expert (Freire, 1972), making them one way forward to creating new learning opportunities in organizations. Book clubs provide a counterweight to more top-down, linear, or organizationally-controlled learning spaces, in part because the non-formal learning that occurs within them is derived from engagement with others instead of being guided by an expert (Ziegler et al., 2014).

Book clubs act as spaces for learning and for teaching people to think “about who they are and how the world works” (Sandlin et al., 2017, p. 823). The interaction occurs through dialogue which fosters critical reflection and critical consciousness.

Critical reading can help readers “exercise agency from within the imaginative, critical choices they are able to make in their own learning”. And by engaging in discussion of fiction with others, “learners construct new meaning and transform their collective experiences into knowledge through their conversations” (Baker et al., 2005, p. 412).

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

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The benefits, significance, results of the CT interventions in adult education presented above

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Authors' recommendations and further developments

The authors have offered a conceptual paper that advances current thinking concerning management and organizational learning through book clubs. They have drawn inspiration from the five-stage narrative arc structure (Freytag, 1895) and present the design elements of a conceptual paper as follows: first beginning with the exposition, where they introduce book clubs as non-formal adult learning. Next, the rising action presents book clubs as potentially critical and emancipatory learning spaces that foster social connection and cultural change work. The climax follows to reveal how the notions of book clubs presented in the rising action are made pedagogically complex through the lens of critical public pedagogy. Finally, in falling action and denouement, they recapitulate the final key ideas and present a representation that extends theoretical conceptions in management learning.

The article just read inspired you to formulate another recommendation or further development? Our insight

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Critical thinking and non-formal Islamic education: Perspectives from young Muslims in the Netherlands

Title of the article/chapter/book: Critical thinking and non-formal Islamic education: Perspectives from young Muslims in the Netherlands

Author(s): H. K. Altineyelken

Publication date: 2021

Available at: <https://link.springer.com/article/10.1007/s11562-021-00470-6>

Summary: CT is a highly valued skill in the twenty-first century, and its incorporation into formal school curricula as a core skill is nearly ubiquitous globally. It is considered imperative for educational quality, employability, competitiveness, and for promoting democratization and social integration. While schools are tasked to promote CT, non-formal Islamic education (NFIE) provided by mosques or by private organizations or tutors is often criticized for its emphasis on rote learning and memorization, and for fostering an uncritical acceptance of authority. Based on interviews with 27 young adult alumni from four different Muslim communities in the Netherlands, this study seeks to explore the pedagogy of NFIE, with a focus on CT.

What is CT for the author(s)?

CT is a highly valued skill in the twenty-first century. It is considered imperative for educational quality, employability, competitiveness, and for promoting democratization and social integration.

Issues addressed (main idea of the article/publication)

While schools are tasked to promote CT, non-formal Islamic education (NFIE) provided by mosques or by private organizations or tutors is often criticized for its emphasis on rote learning and memorization, and for fostering an uncritical acceptance of authority. Based on interviews with 27 young adult alumni from four different Muslim communities in the Netherlands, this study seeks to explore the pedagogy of NFIE, with a focus on CT.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

Europe's increasing ethnic diversity and the challenges of integrating immigrant communities have sparked a renewed interest in citizenship education and in CT in particular. In the Netherlands, citizenship education was introduced in 2006, obliging primary and secondary schools to promote democratic values, active citizenship, and social integration. Within this context, the willingness and ability to critically appraise different viewpoints and to reflect upon justice, equality, and democratic engagement are emphasized

The benefits, significance, and results of the CT interventions in adult education presented above

This study aims to explore to what extent CT is emphasized and stimulated in NFIE in the Netherlands, and what the challenges are to incorporating CT skills in the teaching and learning processes in NFIE, based on the perspectives of young Muslims. It is important to note that NFIE, or 'Islamic supplementary education', incorporates a range of pedagogical settings, including weekday classes at institutions

established by Muslim communities, Qur'an schools organized by mosques on the weekends, and private home tutoring.

Authors' recommendations and further developments

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The article just read inspired you to formulate another recommendation or further development? Our insight

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Conceptual ideas and orientations of the northern American model of adult education

Title of the article/chapter/book: Conceptual ideas and orientations of the northern American model of adult education

Author(s): O. Terenko

Publication date: 2019

Available at: <https://doi.org/10.21303/2504-5571.2019.00906>

Summary: The article deals with conceptual ideas and indicators of the Northern American model of adult education. It is substantiated that the Northern American model of adult education is based on the following philosophical directions: liberalism, progressivism, behaviourism, humanism.

The basic principle of liberal education is singled out, in particular, to develop a personality that is consonant with the purpose of a liberal education in ancient times – the education of citizens who can become active participants in a democratic society. It is proved that non-formal adult education should be continuous, and focus on the development of intellectual abilities, be accessible to all sections of the population, and its content must meet their needs.

It was proved, that, unlike behaviourists, representatives of humanistic direction (J. Brown, Johnson, Maslow, M. Knowles, K. Rogers, etc.) considered man to be an independent, active, open to change and self-actualization person.

It updates the social role of non-formal adult education, because it requires CT and personal participation in these changes. It was found out that according to philosophy of constructivism person is unique in his/her vision of the world, beliefs, and outlook because he/she can construct his/her understanding of reality. A teacher is not just a transmitter of knowledge, he/she serves as the consultant, moderator, and facilitator.

What is CT for the author(s)?

The article mainly discusses adult education, mentioning that the development of CT is a highly valued skill in the twenty-first century.

Issues addressed (main idea of the article/publication)

- The main factors of intensive development of adult education is the social and economic changes taking place in society.
- The global economy is regarded by researchers as a megatrend of the 21st century, “has dramatic implications for adult education”. This is due to a mismatch of knowledge and

competence, a necessity of professional retraining, changes in the labour force, and the transition to an information society, the achievements of scientific and technological progress, the emergence of new technologies.

- Continuous education is understood today not only as a *learning in the length of life* (lifelong learning), but also as a *learning width of life* (life-wide learning), focusing on expanding the possibilities of education using both formal and informal education. In this context, non-formal adult education is regarded as an equivalent component of adult education as a social and cultural component that reflects the needs of adults in obtaining a variety of educational services.
- In this context, learning is understood not as a response to a “stimulus or meeting the demands of new knowledge”, but as a process of internal satisfaction “motives and impulses”.
- The author underlines three fundamental ideas for motivating adult participation in education: motivation is internal to meet the diverse needs; motivation can be formed; motivation is related to the objectives, formulated and adopted by a man.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The dynamism of world economic and social development, the processes of globalization and integration, and the transition to an information society necessitate upgrading the education system, which is the methodological basis of the concept of *lifelong learning*. It is regarded as an essential and mandatory component of the social model of modern society that can adequately respond to the challenges of modern society and provide professional human and social development throughout life. Adult education is one of the most important components of lifelong education.

The benefits, significance, results of the CT interventions in adult education presented above

The author’s analysis of the scientific literature showed that adult education in the USA has evolved with the development of society, and has a long history and some traditions, mainly seen as informal adult education, aimed at self-improvement of an adult to meet his/her educational needs; mechanism of civil society formation.

Adult education is viewed as an organized educational process that helps an adult to acquire new knowledge, skills and competencies. Any person who has basic education can be included; it presupposes all types of education, with accreditation and without accreditation: formal, informal, non-formal; it comprises different types of learning organization – traditional and distant; it can be organized not only in classes but in workshops, libraries, churches, museums, at home; can be organized by different providers – private personalities, volunteers, community.

Authors' recommendations and further developments

The article provides a detailed overview of the Northern American model of adult education, its development, and its philosophical directions.

The article just read inspired you to formulate another recommendation or further development? Our insight

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Teachers' reflections on their practices in older adult non-formal education

Title of the article/chapter/book: Teachers' reflections on their practices in older adult non-formal education

Author(s): M. Schoultz

Publication date: 2023

Available at: <https://doi.org/10.1080/00313831.2023.2196543>

Summary: This study aims to contribute knowledge about teachers' reflections on their own practice in *Folkbildning* activities for older adults and is based on Nordic-German *Didaktik* theory and the three main *Didaktik* questions: *why?*, *what?* and *how?*. Semi-structured, qualitative interviews were conducted with ten teachers from different adult education associations and folk high schools who led courses that were directed specifically at older adults. The study identified that purposes reflected by the teachers connected with the *why* question are: enjoyment, critical inquiry and resocialisation. Three principles of the *what* question are participants' interests, standards and plurality. Four principles relating to the *how* question are: learners' active participation, teachers' distinct guidance, individualisation and a permissive environment.

What is CT for the author(s)?

The theme *education as critical inquiry* involves critical reflection and broadening perspectives. For the author, being critical means questioning certain aspects of society, e.g., aging, and taking a critical standing and reflecting on different issues.

Issues addressed (main idea of the article/publication)

In the Nordic and German tradition, *Didaktik* is a research tradition with an interest in teaching and learning. *Didaktik* theory particularly stresses question about the meaningful content in education (what) and relates content to the purposes and motives of education (why) and the methods for teaching this content (how). The focus is thus on the reflective practice of teaching and the different choices made regarding the questions why, what and how. Articulating alternative ideas about teaching approaches is important as they can serve as reference points for planning lessons and for discussion among teachers. This process is crucial in order to strengthen cumulative knowledge about the teaching of older adults and the role of the teacher.

It is important to understand the specificity of older adult education. More responsibility for the learning and the content can be given to these participants because no learning goals need to be checked off. Teachers describe that their teaching of older adults is more dialogical and less lecture-orientated compared to their teaching of younger university students. Aspects like understanding the older participants' emotions, cultures, psychological, physical and social needs are crucial. The author stresses that attributional feedback could be used more to empower the participants to control their own learning.

One of the cornerstones of the Nordic and German tradition of *Didaktik* theory is the aspect of *Bildung*. *Bildung* is concerned with the process of seeking knowledge and its relation to the shaping of the personality. It highlights the individual's unique self by focusing on questions of a more existential character, personal development and growth. The tradition of *Didaktik* theory highlights teachers' freedom to form their practices. Thus, teachers' professional autonomy is emphasised as crucial.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

In order to acquire a deeper understanding of meaningful content in education, the author turns to the German *Didaktik* theorist Klafki (2000) and discusses his basic model.

From his perspective, the content is formed in the actual educational situation and the student gives the content meaning depending on the circumstances in this practice. Klafki's basic model consists of five questions that the teacher can use to select the content for the education, which then form the basis for their lessons. The first question focuses on generality and how the content can open up basic phenomena or fundamental principles for the learner. The second question directs attention to the meaning of the content and what kind of significance it already has for the learner. What does the learner already know about that content? The third question is about the future meaning of the content. How does the content play a vital role in the future life of older adults? The fourth question deals with the structure of the content and is affected by questions 1, 2 and 3 that then set the context for the pedagogical perspective. Finally, the fifth question focuses on how the content can be made interesting and available for the learner. How might the content be structured in order to be interesting and stimulating? These five questions can guide teachers' reflective practices about the content and how to make it approachable.

The non-formal educational context for older adults actualises the autonomous role of teachers and their reflective practices.

The benefits, significance, results of the CT interventions in adult education presented above

The study looks at the question of *why*, which addresses the reasons for a course and its function. Here, three themes were identified: education as enjoyment, education as critical inquiry, education as resocialisation.

The teachers highlighted that education as enjoyment was important when leading a course. The theme relates to pleasure and whether the courses are enjoyable, interesting and positively stimulate the participants.

The theme of education as critical inquiry involved critical reflection and broadening perspectives.

Education as resocialisation was highlighted as a purpose by the teachers. This theme was about socializing the participants into a world that has changed and is still changing.

The question of what to teach included the basic grounds and principles for the chosen content. Here, participants' interests, standards and plurality were principles that related to what teachers thought about when selecting content.

The theme of participants' interests was about choosing content according to the participants' wishes and earlier experiences. It considered how the content already had significance for the participants and that a deeper meaning could be created through continuity between past, present, and future experiences. Content-based on standards involved choosing content that was understood as factually important and background knowledge.

Content-based on plurality was highlighted by the teachers as a way of nuancing and reflecting on different aspects of a subject.

The question of how was related to the methods and the learning processes taking place in the educational practice. Four principles that were identified in this context were: students' active participation, teachers' distinct guidance, individualization, and a permissive environment. In the theme of students' active participation, the teachers wanted the participants to engage in conversation and

discussion and to be actively involved in the learning process. Another way of creating active participation was to ask the participants specific questions.

The theme of teachers' distinct guidance implied lecturing, feedback and demonstration.

Individualization was outlined as another principle for choosing methods. This theme involved individual work during the course sessions as well as at home between the lessons. Adaptations, such as the learning tempo in a course, also facilitated individualization, in that the participant's different backgrounds and experiences, e. g., with digital devices could be challenging.

Letting the participants work on their own was emphasized. In this case, the participants were responsible for their learning processes, were active and encouraged to be creative.

The theme of a permissive environment was about creating a comfortable atmosphere, emboldening the participants and paying attention to them.

The study reveals that the teaching of older adults is embedded in a social and cultural environment. A key debate in older adult learning focuses on why we should teach older adults and to what end. Different philosophical strands highlight various goals, such as empowerment, emancipation, personal growth, self-fulfilment and functionality.

Authors' recommendations and further developments

The teaching of older adults in non-formal education actualises other values and goals, and several of the purposes and principles mentioned by the teachers highlight intrinsic values as crucial. The teaching of older adults should be less lecture-orientated and focus more on collective learning. The teachers thus need to reflect on how to create educative encounters that facilitate the growth of the participants, especially when they are inexperienced in a subject. The teaching of older adults should accordingly be organised to create continuity between past, present and future experiences.

The article just read inspired you to formulate another recommendation or further development? Our insight

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Numeracy, adult education, and vulnerable adults: a critical view of a neglected field

Title of the article/chapter/book: Numeracy, adult education, and vulnerable adults: a critical view of a neglected field

Authors: I. Gal, A. Grotlüschen, D. Tout, G. Kaiser

Publication date: 2020

Available at: <https://doi.org/10.1007/s11858-020-01155-9>

Summary: Numeracy encompasses how people cope with the mathematical, quantitative, and statistical demands of adult life, and is viewed as an important outcome of schooling and as a foundational skill for all adults.

The paper is organized into five sections. After a brief introduction, Section 2 examines adult numeracy, focusing on five numeracy domains (health, financial, digital, civic, and workplace numeracy), literacy–numeracy linkages, functional and critical aspects of numeracy, and the centrality of numeracy

practices, and notes sources of vulnerability for each of these. Section 3 sketches formal, non-formal, and informal contexts in which adults learn or develop their numeracy, and examines factors that may be potential sources of vulnerability, including systemic factors and dispositional and affect factors. Section 4 reflects more broadly on the concept of vulnerability and points to findings regarding adult learners who may be deemed vulnerable. The closing section summarizes conclusions and research directions regarding the intersection of the three core domains.

What is CT for the author(s)?

The authors explicitly link the numeracy with the notion of criticality that is now routinely highlighted in virtually all frameworks that explore and define twenty-first-century skills.

An emphasis on critical reflection or interpretation is consistent with long-standing views in the area of adult numeracy, such as the concept of critical numeracy, which connects with the interest in critical mathematics. Critical approaches to numeracy do not think only of the individual, but also focus on societal circumstances. Adults need to be able to interrogate and form opinions about trends in crime, unemployment, pollution, medical or environmental risks, and related issues, all of which require a critical understanding of civic statistics.

Criticality is also essential in health and medical contexts, and in financial matters such as understanding and reacting to changes in social benefits, taxation, or vital household expenses like power supply and the monitoring of numerate environments. Gendered power relations in money management is another financial numeracy issue where a critical lens may be useful.

Numeracy is accessing, using, and reasoning critically with mathematical content, information and ideas represented in multiple ways to engage in and manage the mathematical demands of a range of situations in adult life.

For many vulnerable adults, functional numeracy is vital and critical. Functional numeracy also is a stepping-off point for becoming critical (e.g., citizens who live under the poverty line or depend on government assistance for welfare, health, or food, need to monitor their income as well as their rights).

It seems impossible to move towards critical awareness and critical reflection without having the functional skills necessary for functioning in a given society. On the other hand, people who lack certain functional skills do not automatically lack critical awareness. The two are interdependent. It is possible and necessary to be critical even without fully understanding the mathematical part first.

Issues addressed (main idea of the article/publication)

The authors discuss four numeracy domains in detail:

- Financial numeracy includes many actions related to the critical evaluation of financial information, data, and risk as opposed to simply reading texts about financial issues.
- Health numeracy is emerging as an independent field in medical and health sciences research.
- Digital numeracy is becoming increasingly important alongside digital literacy, in times of increasing datafication, public exposure to big data, and the use of algorithms and alongside growing opportunities to access open data sets and participate in 'citizen science' initiatives.
- Civic numeracy is emerging as a complex domain that merges mathematics, statistics, and other areas, and involves critical numeracy, statistical literacy, and civic statistics.

Solving a numeracy problem situated in the real world often involves a process of reading, interpreting, solving, and communicating mathematically. As part of such a process, it is necessary to understand and use a range of text-embedded informal and formal linguistic components (both oral and written), as well

as mathematical terms, language, symbols, and representations. Literacy aspects are critical in reporting and communicating results. An added complexity is that the language of mathematics itself is particularly critical as part of the problem-solving process.

Stated informally, there is no literacy without numeracy, and no numeracy without literacy.

The understanding of numeracy in adult education and as one of the factors that affect citizens' well-being, increasingly encompasses the need for adults to be able to access, use, and apply a wide range of advanced mathematical skills and knowledge, including in a critical sense.

Adults with lower numeracy skills are often described as vulnerable, marginalized or at high risk of being excluded from labour markets and social life.

Digital numeracy is not about using technology in instruction. Rather, digital numeracy refers to skills and dispositions required in today's quantitative, data-rich world. New challenges range from understanding ubiquitous data collection, algorithmic decision-making, and uses of 'big data' in prediction systems. Citizens need to understand the potential contribution of such developments to inequality or discriminatory use, and to distinguish advertisements from information and understand disinformation. Zubof's (2019) recent theory on surveillance capitalism calls for critical awareness of how human behaviour is predicted and modified based on personal data to benefit leading internet companies. The upshot is that citizens who do not develop digital numeracy and a critical stance in this regard are vulnerable, e.g., to actions by various service providers.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

This paper pointed to five domains in which adults need separate but connected numeracies, related to digital, financial, health, civic, and the broad area of workplace numeracy.

These five domains may be seen as functional, calling for pragmatic responses, yet they all also involve critical elements since they require the ability (and inclination) to raise questions, reflect critically, and communicate effectively about thoughts and concerns. Each of these five domains requires not only computational, but also interpretive and decisional reactions.

The benefits, significance, results of the CT interventions in adult education presented above

Rapid technological, scientific, economic, and social changes and developments increasingly require adults to have more critical and reflective reasoning skills and the ability to recognize, interpret, and understand a broadening spectrum of manifestations or contributions of mathematics, statistics, and numeracy across a wide range of life domains.

Authors' recommendations and further developments

The article offers many possible directions for future research, given the need to inform policy regarding "what works" (or "could work") in adult numeracy programs, as well as to inform planning of educational interventions at the program or teacher level. For example, what teaching (and assessment) practices can promote the teaching and learning of critical aspects of numeracy, and what is the role of new technologies in this regard?

The article just read inspired you to formulate another recommendation or further development? Our insight

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Critical thinking in the context of adult learning through PBL and e-learning: A course framework; a study based on the literature review

Title of the article/chapter/book: Critical thinking in the context of adult learning through PBL and e-learning: A course framework; a study based on the literature review

Authors: L. F. Santos-Meneses, T. Pashchenko, A. Mikhailova

Publication date: 2023

Available at: <https://doi.org/10.1016/j.tsc.2023.101358>

Summary: This literature review aimed at synthesizing criteria to promote CT in the context of adult education focusing on problem-based learning (PBL) and e-learning. Two leading principles play a central role in a CT development model in adult education: intrinsic motivation (inner condition) and learning flexibility (outer condition). The former concerns the learner, while the latter concerns the learning arrangement. Although self-learning is an important alternative, which has been widely practiced in adult learning, collaborative learning cannot be dismissed for effective CT development in adults.

The study poses the following questions:

- What are the major implications of CT development in the context of adult learning?
- What are the factors of success and failure when employing PBL in adults' critical thinking instruction?
- What are the advantages and disadvantages of online learning in adults' CT instruction?

1. The authors stress that an important characteristic of adult learning is that it is carried out in flexible environments, in terms of time and space, so that adult learners can engage in learning activities amid their employment and other roles of adulthood. Thus, as an inner process, or a process that occurs in the learner, adult learning could be understood as a transformation or change process resulting from learning activities whose core characteristics are selectiveness and self-directedness of the adult learner.

Besides, adult learning is fundamental not only for rising productivity in the industry but for individual development and effective participation in society and, thus, for social or collective development. Literacy in the 21st century is no longer a matter of reading to extract knowledge or information but of validating and constructing knowledge, mostly in digital environments, where CT is manifested as an ability inevitably present in literacy and digital competencies. CT is vital for continuous professional development and social and interpersonal relations/contexts where decision-making and problem-solving are highly relevant on a daily basis.

Problem-solving and decision-making are integral to the conception of CT, either as skills, learning goals, or application outcomes. However, these and other CT competencies and dispositions do not develop solidly as a function of time or age, or even as a result of many years of formal/regular education or experience but as a consequence of robust, explicit and systematic training in the field of CT.

2. PBL is an integrated pedagogical approach that involves the systematic use of problems (e.g., ill-structured problems) and different activities aiming at developing skills or learning goals such as problem solving or other CT and technical skills and knowledge. PBL involves at least three phases: (i) a problem analysis phase, consisting of group discussion/work for problem identification and formulation of learning issues/questions; (ii) a self-study phase, consisting of independent information search and processing; and (iii) a reporting phase, consisting of synthesis. PBL can be understood in terms of three principles: (i) it is necessary to have a problem to trigger learning; (ii) PBL is not an instructional

technique in isolation, but a holistic approach involving the interaction of several learning approaches and methods; and (iii) PBL is almost always student-centered. Thus, PBL is an active learning approach in which students engage in deep thinking, reflection, and inquiry through discussion, research, and self-learning, which are meant to be intelligibly facilitated/encouraged by the instructor. Problems used in PBL should be authentic to secure meaningful learning and transferability.

3. The most important features of online learning relevant to the promotion of adults' CT is that it facilitates self-learning and eliminates rigid time and space/distance conditions in the learning process. This is particularly relevant to adults as they have to follow a working agenda or roles of adulthood and share these with their learning undertakings. This way, e-learning has invigorated lifelong/adult learning with the concept of "any time, any place, anywhere" and this includes also CT development.

The study also presents limitations and contraindications of online environments:

- potential social isolation and health-related problems (e.g., mental health, fatigue, a sedentary lifestyle) when overusing or misusing the internet;
- restricted practical (face-to-face) learning activities and the interplay between theory and practice;
- limited teachers' competence to work effectively with new technologies (digital tools, media, etc.)—lack of training;
- limited teachers' and students' willingness to work with new technologies (digital tools, media, etc.);
- complexity perceived by students and teachers. demanding independent workload for students and difficulties for teachers with adjusting/adding new materials/tools, and lesson planning;
- learners' inability to analyse or summarize the massive flow of online information;
- learners' difficulties in discerning valid (accurate/reliable) online information from otherwise, etc.

The challenge that mis- and disinformation pose suggests the need for developing a subset of thinking and research skills and dispositions in CT education, such as evaluation skills for digital information, online search skills, and dispositions like truth-seeking and healthy skepticism, among others, when engaged in online environments.

The authors of the study propose a model for 21st century CT development in the context of adult learning (Figure A1). Also, the work provides interesting data regarding the development model of CT in adults and benchmarks that can be considered in the design of such a course (Figure B1).

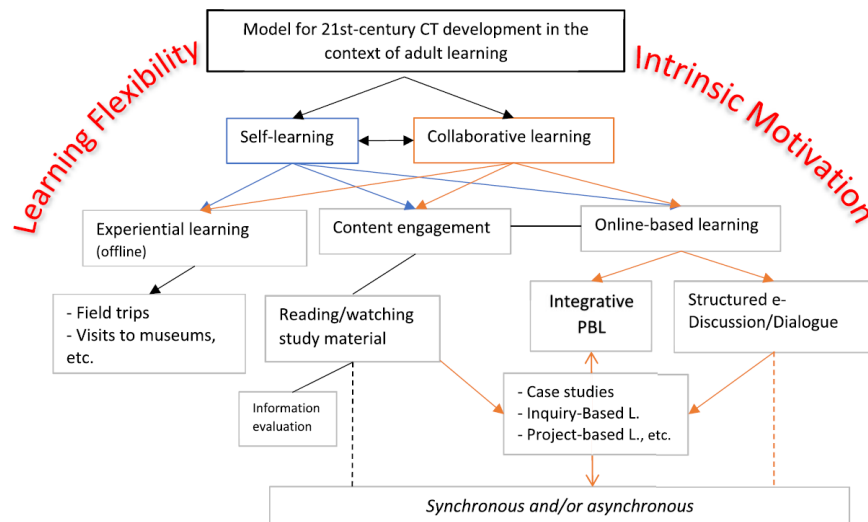


Fig. A1. Model for 21st-century CT development in the context of adult learning.

Note: The blue arrows indicate connections between self-learning with other learning approaches (all approaches or activities that are conducted through self-learning). The yellow arrows indicate connections between collaborative learning with other learning approaches (all approaches or activities that are conducted collaboratively). Meanwhile, the black arrows make no distinction between whether connections are established between self-learning or collaborative learning. They indicate straightforward and exclusive connections between components visually connected through the arrows. The *integrative PBL approach* implies the possibility of conducting other learning approaches, within the frame of PBL, guided by ill-structured problems.

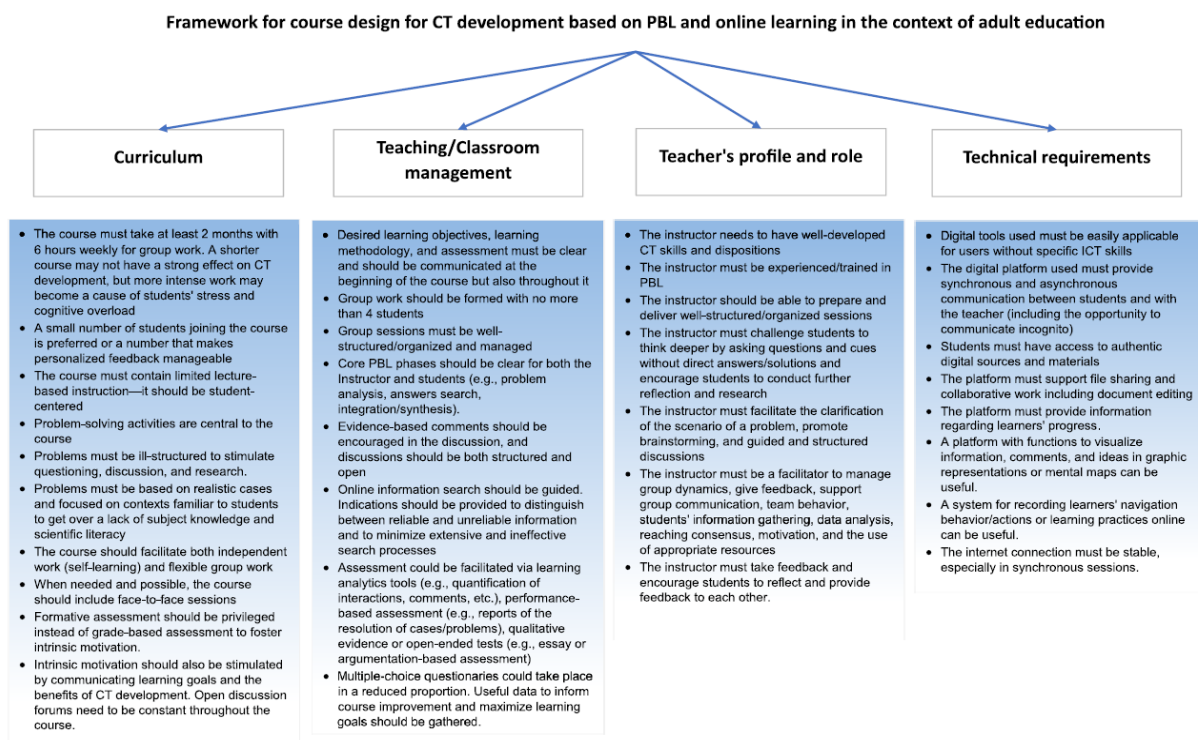


Fig. B1. Framework for course design for CT development based on PBL and online learning in the context of adult education.

Note. Fig. B1 summarizes research-based criteria and best practices analyzed in Sections 3 and 4 in article.

Using critical thinking teaching methods to increase student success: An action research project

Title of the article/chapter/ book: Using critical thinking teaching methods to increase student success: An action research project

Author(s): H. Nold

Publication date: 2017

Available at: <https://files.eric.ed.gov/fulltext/EJ1136016.pdf>

Summary: The paper starts from the idea that CT is part of the constructs that ensure academic and workplace success and proposes action research designed to provide insight into the question of whether integrating CT tasks into course design will help students improve the attributes necessary for success both in the classroom and in the workforce. The work provides a series of useful strategies for stimulating CT development, but also an interesting instrument, The Motivated Strategies for Learning Questionnaire (MSLQ) that measures a series of important constructs in academic success.

What is CT for the author(s)?

Although there is no clear definition of the concept, the author agrees with other specialists that CT involves identifying, analyzing, synthesizing, and evaluating information to yield actionable knowledge to make effective decisions (Argyris, 1996; Giancarlo & Facione, 2001; Liu et al., 2014; Scriven & Paul, 1987).

Issues addressed (main idea of the article/publication)

The paper starts from the idea that CT is part of the constructs that ensure academic and workplace success. The paper uses Boyer and Usinger's (2013) Motivated Strategies for Learning Questionnaire (MSLQ) findings that revealed CT **not to be** among the success factors for school and workplace, but they explained this by the fact that in the university, as a rule, students who are conformists, they memorize, they replicate their teacher have success and not those who ask why. The cause thus resides in the lack of competencies of teaching staff in integrating CT into their course and assessment. To address this issue, the paper proposes action research designed to provide insight into the question of whether integrating CT tasks into course design will help students improve the attributes necessary for success both in the classroom and in the workforce.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The action research includes 3 courses from a Bachelor of Business Administration program at the college taught by one instructor between October 2013 and December 2014. The courses were "Strategic Planning and Management", "Operations Management and Decision-Making" (face-to-face), and "Business Ethics". The other two were conducted in a hybrid manner. They were designed to incorporate effective thinking skills development (2 written assignments, online discussion forums, and weekly written assignments, classroom sessions – using the 5-Why approach to promote debate and sharing of experience and presentations). The students consist of somehow non-traditional students with an average age of 33 with a range from 19 to 60, 67% female students.

A modified Motivated Strategies for Learning Questionnaire (MSLQ) was chosen as the instrument to evaluate multiple dimensions of success. The constructs used are as follows: MSLQ Motivational Constructs – Intrinsic Goal Orientation, Extrinsic Goal Orientation, Task Value, Control of Learning Beliefs, Self-Efficacy for Learning & Performance, Test Anxiety, and MSLQ Learning Strategies

Constructs: Rehearsal, Elaboration, Organization, CT, Metacognitive Self-Regulation, Time/Study Environmental Management, Effort Regulation, Peer Learning, Help Seeking.

The instrument was applied online (email with link) at the beginning and the end of the programs. Of 316 students, only 163 completed the two surveys. The results reveal correlations at the level of Self-Efficacy for Learning & Performance, CT, negative correlation on extrinsic motivation, and general improvement on all constructs. Other results are mentioned in the paper.

Limits of the research are analyzed such as the necessity more representative population of students and faculty.

The benefits, significance, results of the CT interventions in adult education presented above

The work provides a series of useful strategies for stimulating CT development: multiple written assignments and emphasizing research, providing detailed feedback on scholarship, logic, and style, and using online discussion forums to extend classroom discussion to promote deeper thinking and scholarship through questioning and challenging student posts and individual or team presentations in the classroom.

Authors' recommendations and further developments

The paper proposes a recommendation that faculty include established methods for developing CT in course curricula. College administrators would necessarily have to include extensive training and education programs for faculty to fully understand the dynamics of CT and how to properly develop those skills with students.

The article just read inspired you to formulate another recommendation or further development? Our insight

The proposed instrument, Motivated Strategies for Learning Questionnaire (MSLQ) seems to be a good instrument that measures a series of important constructs in academic success and would be interesting to apply on a larger scale, to measure the effectiveness of some educational programs.

Another interesting idea is motivated suggestions at the level of didactic strategies to stimulate CT.

ANNEX II. Reading cards for national literature

Croatia's experience/scholarship review on CT in adult education

The relationship between critical pedagogy and critical thinking

Title of the article/chapter/ book: Odnos kritičke pedagogije i kritičkog mišljenja (The relationship between critical pedagogy and critical thinking)

Author(s): M. Rautalin

Publication date: 2023

Available at: <https://repositorij.ffst.unist.hr/islandora/object/ffst:4017>

Summary: Critical pedagogy and CT are two prominent concepts that share the common notion of “criticality” as a starting point, while at the same time branching off in different directions. Differences are hidden in the philosophies of these concepts, which results from the fact that the very concept of criticality is understood differently in the humanities compared to the social sciences. The comparative analysis of these two concepts perfectly illustrates the layering of the concept of criticality and its original, i.e., practical, useful effect. The aim of the theoretical part of the work is to present and critically compare the main features of two traditions: critical pedagogy and CT. Therefore, the paper offers a brief historical overview of the development of both traditions, referring to their different perspectives and main definitions. Furthermore, the concept of criticality is analysed and interpretations of this concept are presented within different schools of thought, relying primarily on the pedagogue Stables (2003). The concept of criticality was explained separately through the prisms of CT and critical pedagogy in order to determine their connections, as well as the reasons for their disagreement. Freire’s “Pedagogy of the Oppressed” (1972) is taken as a starting point for the analysis of critical pedagogy, and the differences and similarities in the practical application of the principles of these two traditions are explained through the prism of the tradition of general pedagogy. The empirical part of the paper presents the research conducted with pedagogy students of the Faculty of Philosophy in Split, the aim of which was to determine how pedagogy students understand the concepts of critical pedagogy and CT and their relationship. The results showed that students from this research, just like students from other researches, do not know and understand the concepts of CT and critical pedagogy and the relationships between them well enough, which points to the need to achieve a transforming higher education that connects the knowledge and experience of students and encourages their CT and action.

What is CT for the author(s)?

Critical pedagogy and CT are two prominent concepts that share the common notion of “criticality” as a starting point, while at the same time branching off in different directions. Differences are hidden in the philosophies of these concepts, resulting from the fact that criticality is understood differently in the humanities than in the social sciences.

Issues addressed (main idea of the article/publication)

- The theoretical part of the paper aims to present and critically compare the main features of two traditions: critical pedagogy and CT. Therefore, the paper offers a brief historical overview of the development of both traditions, referring to their different perspectives and main definitions.
- The concept of criticality was explained separately through the prisms of CT and critical pedagogy to determine their connections, as well as the reasons for their disagreement. Freire's "Pedagogy of the Oppressed" (1972) is taken as a starting point for the analysis of critical pedagogy, and the differences and similarities in the practical application of the principles of these two traditions are explained through the prism of the tradition of general pedagogy.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The empirical part of the paper presents the research conducted with pedagogy students of the Faculty of Philosophy in Split, the aim was to determine how pedagogy students understand the concepts of critical pedagogy and CT and their relationship.

The results showed that students from this research, just like students from other research, do not know and understand the concepts of CT and critical pedagogy and the relationships between them well enough, which points to the need to achieve a transforming higher education that connects the knowledge and experience of students and encourages their CT and action.

The benefits, significance, results of the CT interventions in adult education presented above

Throughout the paper, it has become obvious that students do not understand concepts of CT and CT pedagogy and thus the relations between them. Uncertainty is observed in the formation of answers and basic knowledge of some of the elements of the CT process, for example, analysis appearance, and development of the ability to make one's judgment, but understanding and recognition are missing its role in the educational process.

Authors' recommendations and further developments

Developing critical skills should be started as early as possible, and nurturing them will develop dispositional possibilities and cognitive representations of CT. The team creates an assumption that allows avoiding raw opinions and unverified facts, and states the questioning of all assumptions about what is true through discussion and arguments.

The article just read inspired you to formulate another recommendation or further development? Our insight

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Critical thinking manual

Title of the article/chapter/ book: Kritičko mišljenje: Priručnik kritičkog mišljenja, slušanja, čitanja i pisanja (Critical thinking manual)

Author(s): I. Buchberger

Publication date: January 2012

Available at: https://www.researchgate.net/publication/292996183_Kriticko_misljenje

Summary: The handbook “Critical Thinking: A Handbook for Critical Thinking, Listening, Reading, and Writing” examines the complex concept of CT and directly, with numerous examples and exercises, teaches CT skills. The handbook is especially intended for high school and university students, but it does not exclude all individuals who wish to develop and improve their thinking. Precisely for this reason, the language, presentation style, examples used, and works discussed have been adapted to a wider readership. The handbook is divided into five chapters. The first chapter, **Critical Thinking**, defines the concept of CT, compares it with opposing thinking – reproductive thinking, and finally establish the relationship between philosophy and CT. The second chapter, **Argument**, examines one of the fundamental concepts of CT – argument, by defining what an argument is, comparing and noting the difference between an argument and a similar set of claims – explanation, examining validity as an important characteristic of an argument, and providing rules of natural deduction as an example of formalized natural reasoning. The next chapter, **Errors in Reasoning**, provides an overview of the most common errors in reasoning with examples, aiming to raise awareness of errors in reasoning and correct them. Furthermore, the chapter **Methodological Framework for Analysis and Critique**, divided into critical listening and reading and critical writing, presents five methodological frameworks for analysis and critique – methodological framework for analysis and critique for discussion papers. Finally, the chapter **Instead of a Conclusion: A Critical Approach to the Handbook** warns about the critical approach that should be taken even towards this handbook.

What is CT for the author(s)?

CT is layered and challenging, it is used to question, it is used by individuals to build themselves and their attitudes, and it requires high levels of abstract thinking. Therefore, the process of developing CT skills is neither quick nor easy. In this time of 'instant' solutions, superficiality and distorted values, the author says she is aware that such efforts risk being rejected. Despite this, the author believes that there is a considerable number of individuals who, aware of the value of CT, are ready to invest time and effort in its development. The long-term benefit that CT provides in various fields is inevitable.

The development of CT skills is increasingly being set as one of the goals in the field of education. Unfortunately, advocacy for the development of CT is still more present in theory than in practice. In the context of the discrepancy between theory and practice, with the manual, the author tries to support the development of CT, which she considers extremely valuable.

Issues addressed (main idea of the article/publication)

The manual examines the complex concept of CT and teaches CT skills directly, with numerous examples and tasks. Therefore, the basic intention of the manual is to teach readers these skills.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

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The benefits, significance, and results of the CT interventions in adult education presented above

With the manual, the author tried to provide support to colleagues in the process of developing their CT, for their benefit, but also for the benefit of the entire community.

The manual is especially intended for the high school and student population, but it does not exclude all those individuals who want to develop and improve their opinions. Precisely for this reason, the language, presentation method, used examples and considered papers tried to adapt to a wider readership.

Authors' recommendations and further developments

The author states that she hopes that the handbook will fulfil its mission – to draw attention to the importance of CT and to help individuals develop their CT skills. The handbook mostly inspires to be patient and inquisitive because that is how good critical thinkers are made.

The article just read inspired you to formulate another recommendation or further development? Our insight

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Critical thinking in education: Past contributions and open directions

Title of the article/chapter/book: Kritičko mišljenje u obrazovanju: dosadašnji doprinosi i otvoreni smjerovi (Critical thinking in education: Past contributions and open directions)

Author(s): I. Buchberger, V. Bolčević, V. Kovač

Publication date: 2017

Available at: <http://dx.doi.org/10.21464/mo45.124.109129>

Summary: This paper discusses and presents the current knowledge of CT in the field of education. The purpose of this paper is to present and analyze the scientific contributions of CT research in education so far in order to create a theoretical basis and identify innovative directions of future research in this field. The paper provides an overview and commentary on the definition of the concept of CT and an overview of significant research in the field of CT in education within the foreign and Croatian research context. The findings of previous research indicate the importance of the development and implementation of teaching for CT, given that it improves the quality of the learning process and teaching in teaching. Research shows that the teacher plays a key role in encouraging the development of CT of students, primarily through the application of active learning and teaching methods. In the final part of the paper, based on the definition of the concept of CT and the presentation of previous research, a construct of teaching for CT is developed through its categorization and operationalization, which also represent possible directions of future research.

What is CT for the author(s)?

CT contributes to higher levels of acquisition and understanding of the teaching content, helps students to follow the teaching content more easily and to evaluate it critically, promotes the development of self-regulated learning, encourages self-evaluation of the learning process, and requires students to be independent in making decisions, conclusions, which ultimately leads to severe forgetting of acquired knowledge.

Issues addressed (main idea of the article/publication)

- The paper provides an overview and commentary on the definition of the concept of CT and a presentation of significant research in the field of CT in education within the foreign and Croatian research context.
- Based on the definition of the concept of CT and the presentation of previous research, a teaching construct for CT is developed through the paper and its categorization and operationalization, which at the same time represent possible directions for future research.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

In this paper, the current knowledge about CT in the field of education is discussed and presented. The purpose of the paper is to present and analyze the previous scientific contributions of authors who researched the field of CT in education to create a theoretical foundation and identify innovative directions for future research in this field.

The findings of the previous research indicate the importance of the development and implementation of teaching for CT, since it improves the quality of the learning and teaching process in the classroom. CT contributes to higher levels of acquisition and understanding of the teaching content, helps students to follow the teaching content more easily and to evaluate it critically, promotes the development of self-regulated learning, encourages self-evaluation of the learning process, and requires students to be independent in making decisions. conclusions, which ultimately leads to more difficult forgetting of acquired knowledge.

The benefits, significance, and results of the CT interventions in adult education presented above

Based on the definition of the concept of CT and a review of current research, a construct for teaching CT is developed through its categorization and operationalization, which also presents a possible direction for future research.

This paper presents and discusses previous research on CT in education. The paper aims to develop a theoretical framework and identify innovative directions for future research based on previous research analyses of CT in education. It includes a review and commentary on CT concepts and previous research within the context of Croatian and international research. The results of previous research show the importance of developing and implementing teaching for CT, as it increases the quality of learning and teaching. Research shows that the teacher plays an important role in stimulating pupils' CT, foremost by applying active learning and teaching methods. Using the proposed operationalization of the construct of teaching CT, it is possible to examine the intensity of the application of certain categories and dimensions of teaching CT in educational practice. It would be worthwhile to find out which categories and dimensions are more intensively applied in educational practice, which categories of teachers apply them less intensively, and in which subjects, areas or levels of the educational system they are applied more intensively.

Authors' recommendations and further developments

The article encourages us to consider more concrete steps a teacher can do for their learners to prompt CT such as teaching methods and forms of work that are used; Class-teaching environment and (self) evaluation.

The article just read inspired you to formulate another recommendation or further development? Our insight

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Some methods for the development of students' critical thinking according to the ERR system

Title of the article/chapter/book: Neke metode za razvoj kritičkog mišljenja učenika po ERR sustavu (Some methods for the development of students' critical thinking according to the ERR system)

Author(s): Ž. Bjelanović Dijanić

Publication date: 2012

Available at: <https://hrcak.srce.hr/94727>

Summary: This paper discusses a very important component of the curriculum system, the conditions of learning with special emphasis on teaching strategies and teaching methods. An overview of the systematization of teaching strategies and methods according to our and foreign authors is given. To this list of methods, some new methods have been added, which the author has adopted through the program "Reading and Writing for Critical Thinking" and successfully applies them in teaching mathematics and computer science. Several concrete examples of the implementation of these methods in teaching are also given, which is supported by student works. The concept of CT is described as an educational ideal that is occupying an increasing role in the teaching practice of most countries and offers one of the models of encouraging the development of CT in students through three stages of the teaching process: evocation, understanding of meaning and reflection with an emphasis on active learning. However, the question also arises to what extent the methods mentioned in the paper really encourage CT in students and whether teachers in Croatia are trained to implement it.

What is CT for the author(s)?

CT is self-guided, self-disciplined, self-controlled and self-correcting thinking that requires strict standards of deliberate procedures and imposes effective communication and problem-solving ability.

Issues addressed (main idea of the article/publication)

The concept of CT as an educational ideal that occupies an increasingly important role in the teaching practice of most countries is described and offered as one of the models for encouraging the development of CT in students through three stages of the teaching process: evocation, understanding of meaning and reflection with an emphasis on active learning. However, it also sets the question to what extent the methods mentioned in the paper really encourage critical-thinking students' opinion and whether teachers in Croatia are trained to implement it.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

This article talks about very important component of the curriculum system, about conditions of teaching with a special accent on teaching strategies and teaching methods. A review of teaching strategies and teaching methods by Croatian and foreign authors is given here. This list of methods is enriched with some new methods, which the author herself has learned through the program called "Reading and Writing for Critical Thinking", and she has already applied them successfully in teaching mathematics and information science. The author shows a few examples of how to implement these methods in teaching and she gives some pupils' works as well to prove it.

The benefits, significance, and results of the CT interventions in adult education presented above

The term of CT as an educational ideal is being described, the one that started to play an important role in teaching practice in the majority of countries. Author gives one model how to foster the development of students' CT through three parts of the teaching process: evocation, realization of meaning and

reflection with an accent on active learning. However, there is the question of extent in which methods above mentioned really foster students' CT and if the teachers in Croatia are trained enough to do it.

Authors' recommendations and further developments

In the end, in the spirit of CT, the author encourages us to ask ourselves whether the mentioned methods encourage the development of CT in students and to what extent. The author starts from her own experience and keeps to herself on the subjects she teaches. Would the math professors stay? and/or informatics agreed with her? What is the opinion of teachers of other subjects?

The article just read inspired you to formulate another recommendation or further development? Our insight

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Teaching and evaluating critical thinking

Title of the article/chapter/book: Poučavanje i evaluacija kritičkog mišljenja (Teaching and evaluating critical thinking)

Author(s): V. Grozdanić

Publication date: 2009

Available at: <https://hrcak.srce.hr/82826>

Summary: The article deals with the concept of CT and its different roles, with an emphasis on the role it plays in higher education. Different definitions of the term are given and the importance that CT has in different aspects of life, especially in education, is argued. The measurement of CT is very complex and it is difficult to achieve its satisfactory reliability. Nevertheless, there are many applicable methods available and they are listed in the article. There is no doubt that CT is of great importance and that it needs to be developed in pupils and students. However, research so far on the development of CT does not show unambiguous results. However, most of the good connoisseurs of the concept of CT claim that it can be developed, and the article lists the procedures that have shown the best results. The close connection between CT and writing in expression, measurement and teaching is briefly explained.

What is CT for the author(s)?

In her paper, the author quoted Guillot (2004) who said that “there is only one thing more difficult than learning how to think critically – to try understandably define that concept”.

As her definition, the author says that it is clear that CT begins with solving problems in interaction with other people, and ends with making a decision. In doing so, the person applies previous knowledge, their own perception and information she received from others.

Issues addressed (main idea of the article/publication)

The article deals with the concept of CT and its different roles, with an emphasis on the role it plays in higher education. Different definitions of the term are given and the importance of CT in various aspects of life is argued, especially in education. Measuring CT is very complex and difficult to achieve its satisfactory reliability.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

There are many applicable methods available and they are stated in the article. There is no doubt that CT is of great importance and yes it needs to be developed in pupils and students. However, the current research of the development of CT do not show clear results. Most of them are good connoisseurs of the concept of CT claim that it can be developed, and in the article, it is they list the procedures that have shown the best results.

The benefits, significance, and results of the critical thinking interventions in adult education presented above

The development of opinion in the education system comes from changes in society, necessity, and need, and CT plays a special role in that. Research in this area is numerous, especially in the USA, while there are quite a few in our country. This paper is an academic contribution to the topic of CT in education. Encouraging and evaluating CT, along with all the doubts mentioned at the beginning, are necessary at all levels of education. One reason is to divert the attention of teachers to engage the higher-order thinking of pupils and students, in teaching, as well as in assessment.

Authors' recommendations and further developments

There is a need to develop instruments for his assessment. Their use would reduce the risk that in the evaluation criteria characteristic of a superficial approach to learning are applied to the student's performance. If pupils and students have insight into the criteria by which theirs is evaluated effect, and one of them is the application of CT, it is expected that they will and develop. By jointly developing writing skills and CT skills everyone would benefit, so we should hope for new research in this direction.

The article just read inspired you to formulate another recommendation or further development? Our insight

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How to prepare students of social work for critical thinking and activity in the field of juvenile delinquency

Title of the article/chapter/book: Kako pripremiti studente socijalnog rada za kritičko mišljenje i djelovanje u području maloljetničke delinkvencije (How to prepare students of social work for CT and activity in the field of juvenile delinquency)

Author(s): M. Majdak, M. Ajduković

Publication date: 2003

Available at: <https://hrcak.srce.hr/clanak/5811>

Summary: The demands of modern society and surveys of employers have shown that university teaching needs to change. In this regard, the study of teaching methods that encourage students to CT and active participation in higher education has been undertaken so that educated staff can best meet the requirements that are set for them in their working careers, and in life in general. In the world, more and more teachers are educated in such a way as to encourage CT and active learning, and such education has begun in Croatia under the title "Active Learning and Critical Thinking in Higher Education", organized by the Forum for Freedom of Education. In teaching that uses the methods of CT and active learning, the so-called ERR framework is applied, which is discussed in the text. In this paper, there is presented the method of processing a teaching topic within the course "Delinquency and Social

Work" at the Study Center of Social Work in Zagreb, during which it was used teaching methods that develop CT and active learning. This way of teaching gave extremely good results.

What is CT for the author(s)?

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Issues addressed (main idea of the article/publication)

The demands of modern society and employer surveys have shown that university teaching needs to change. In this connection, the study of teaching methods that encourage students to think critically and actively work in higher education was started, so that educated staff could better meet the demands placed on them in their working career, and in general in life. In the world, more and more teachers are being educated in a way that encourages CT and active learning.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

In this paper, the method of processing a teaching topic within the course "Delinquency and Social Work" at the Social Work Study Center in Zagreb, during which teaching methods were used that develop CT and active learning were presented. This way of teaching gave extremely good results.

The benefits, significance, results of the CT interventions in adult education presented above

Experience in applying teaching methods that encourage CT has shown that the advantages of this kind of work are numerous. First of all, this way of teaching is more interesting and more motivating than the classic teaching model. With this kind of teaching, students not only get motivated for the field, but also participate more actively in classes because they have the opportunity to think critically about topics, exchange opinions with each other, and present and defend their own opinions. Students are encouraged, and they search for literature and follow relevant news with a theme.

This experience proved to be important and useful both for the teachers and the students, as well as for the minors staying in educational institutions. Visibly motivated to learn and engage in work with juvenile delinquents, the students themselves initiated reunions with them, which will be organized in the form of workshops.

The students showed interest in working with young people and in the field that some of them will work in the future. Their engagement during class also indicated that they were satisfied with this way of working and that this way of working required them to be active during class and that they had the opportunity to exchange opinions and discuss and defend their opinion.

Authors' recommendations and further developments

For the authors, this experience only confirmed that an expert with his knowledge alone is not enough to develop and educate people who will meet the needs of today's society, but it is important that teachers prepare lessons well and learn to use teaching methods that will allow the acquired knowledge to be used in the highest quality possible way.

The article just read inspired you to formulate another recommendation or further development? Our insight

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Critical thinking as a response to media manipulation

Title of the article/chapter/book: Odgoj za kritičko mišljenje i medijska anipulacija (Critical thinking as a response to media manipulation)

Author(s): Z. Miliša, B. Ćurko

Publication date: 2010

Available at: <https://hrcak.srce.hr/55353>

Summary: As the media increasingly manipulate information and misuse information, we need media pedagogy, but also a (new) school curriculum that contains instructions and methodological suggestions on how to “train” children to think critically about the world around them, as well as to critically process information carried out by (new) media. Educational institutions should have a recognizable form of “learning” for critical thinking. In the Republic of Croatia, except for some associations, individuals and programs, organized learning for CT does not exist. There are two, more or less successful, attempts to introduce some form of encouraging CT in secondary schools. On the one hand, there are school debate clubs, and on the other hand, the elective subject of Ethics. It is certain that this is small, because training for CT must begin from the first grades of elementary school, of course, with a quality continuation in high school.

What is CT for the author(s)?

CT is quality thinking about certain things problems and events, which is based on quality arguments. It is by no means a criticism, which is its purpose. The goal of CT is not to avoid negative criticizing, but reasoned and prudent opinion.

CT has no specific value or principles, which can be seen in two people who are equal experts in CT, and have different values and principles. There will always be differences in perception and emotional needs that prevent us from all thinking the same. CT does not deal with individual people. Critical opinion does not blindly support everything based on science.

Issues addressed (main idea of the article/publication)

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Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

Educational institutions should have a recognizable form of 'learning' for CT. In the Republic of Croatia, except for some associations, individuals and programs, organized learning for CT does not exist. There have been two, more or less successful, attempts to introduce some kind into secondary schools as a form of encouraging CT. On the one hand, there are school debaters' clubs, and on the other hand, the optional subject is Ethics.

The benefits, significance, results of the CT interventions in adult education presented above

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Authors' recommendations and further developments

Training for CT must start from the beginning grade of primary school, of course with a quality continuation in secondary school. Introducing some of the CT training programs in schools would require major changes. It is possible to introduce an additional subject that does should not be evaluated, in which a professionally trained person will lead well-designed workshops, adapted to the

age of the students. Since that sounds utopian, maybe it's easier to work with teachers and train them to through their subjects, they make students critically aware.

The article just read inspired you to formulate another recommendation or further development. Our insight

The amount of information that the average student encounters today in one day, is greater than the amount of information with which in the middle century encountered by man throughout his life. Young people are more and more exposed to extreme media manipulation. This is stated in the article, but we do not think it only applies to young people, it applies to all age groups. Since social media has become one of the main sources of information for a vast number of the population it is more important than ever to develop CT, but what we think is the most important is to give concrete examples of what this process implies. From our experience, learners of all age groups learn and remember by giving them as many examples from daily life as possible. Something they can relate to, and that is how they learn and remember the best.

Lithuania's experience/scholarship review on CT in adult education

The interpretations of the concept of critical thinking

Title of the article/chapter/book: Kritinio mąstymo sampratos interpretacijos (The interpretations of the concept of critical thinking)

Author(s): V. Indrašienė, V. Jegelevičienė, O. Merfeldaitė, D. Penkauskienė, J. Pivorienė, A. Railienė, J. Sadauskas, N. Valavičienė

Publication date: 2018

Available at: <https://etalpykla.lituanistika.lt/fedora/objects/LT-LDB-0001:J.04~2018~1549357353875/datastreams/DS.002.0.01.ARTIC/content>

Summary: CT is considered one of the most important skills, which determines the welfare of the person and the whole society. The importance of CT is noted in the strategic documents of Europe and Lithuania. CT is considered a key competence, that is necessary for citizens to participate in daily life, and in society and enables employees to make decisions and start activities; it becomes one of the essential characteristics that employers expect their future employees to have. Scientists continuously raise the question of CT (Lloyd & Bahr, 2010), what specific skills of CT should be developed, and how to make them adjustable in practice and remain stable, if the existing instruments of assessment are sufficient (Facione & Facione, 2013; Lai, 2011). The existing variety of conceptions of CT presupposes discussions about the skills, which are necessary for a critically thinking individual. The purpose of this article is to analyse the concept of CT based on multidisciplinary studies of CT. In the investigation of the concept of CT relating to multidisciplinary research of CT in Lithuania and abroad, the analysis of discourse was involved. The selected strategy of the research helps to understand the concept of CT and to analyse this phenomenon in the background of different disciplines. Analysis of scientific literature and theoretical meta-analysis were used in the research. The performed research showed that cognitive and non-cognitive dimensions develop in the interpretation of the concept of CT. CT is identified as a cognitive and reflexive process of thinking including components of cognitive skills and dispositions, which enable one to identify, analyse, and justify decisions and arguments, to make decisions, and to

present problems for consideration. When analysing the interpretations of the concept of CT it is important to identify which elements of the CT concept and which results of CT are emphasized in different sciences or different areas of professional activities. The research has established that the skills of CT are not linked to any specific area of science; in all of them, the focus is on the skills orientated towards the process of problem solution in different professional fields.

What is CT for the author(s)?

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Issues addressed (main idea of the article/publication)

Based on critical discourse analysis, the concept of CT is explored concerning multidisciplinary CT research in Lithuania and abroad. The research strategy aims to clarify the concept of CT and to analyse this phenomenon in the context of different disciplines. The analysis of scientific literature and theoretical meta-analysis were used for the research.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The definition of CT is very broad, so it is still sometimes difficult to understand what it is.

Interpretations of CT used to be associated with cognitive abilities, and higher-level thinking, but in recent publications is a tendency to interpret it as a set of skills and dispositions, as well as relevant knowledge.

CT is associated with high expectations, all kinds of success in personal life, in the labour market, in the development of a democratic society. However, in the context of higher education, little is said about its practical manifestation and application in the context of the living world.

The concept of CT has received the most attention from researchers in the social sciences.

CT skills are not linked to a specific field of science, with all the fields analysed placing particular emphasis on problem-solving skills in different professional fields.

The benefits, significance, and results of the CT interventions in adult education presented above

According to the articles analysed, the benefits of CT include:

- the ability to analyse problems and anticipate solutions;
- the ability to assess causes, question issues and ideas demonstrating a broader understanding of the social and cultural context;
- then the ability to decide what to believe and what not;
- the ability to reflect on one's own decisions and those of others, and to make amends.

Authors' recommendations and further developments

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The article just read inspired you to formulate another recommendation or further development? Our insight

In the context of adult education, this article inspires us to explore how CT is perceived by those who are not involved in formal education. And not only how they understand it, but also by what signs they recognize it.

Links between critical and creative thinking

Title of the article/chapter/book: Kritinio ir kūrybinio mąstymo sąsaja (Links between critical and creative thinking)

Author(s): D. Penkauskienė

Publication date: 2016

Available at: <https://etalpykla.lituanistika.lt/fedora/objects/LT-LDB-0001:J.04~2016~1568989912220/datastreams/DS.002.0.01.ARTIC/content>

Summary: Critical and creative thinking have been and still are the most significant human capacities that have to be developed and nurtured because of personal and societal welfare. However, it is quite difficult to understand what is creative and what is CT. This confusion appears due to the variety of different concepts and understandings. Sometimes both types of thinking are considered to be almost the same, other times –different, and in some cases – have some traits in common. Acknowledged scientific theories, and foreign authors’ and in-country scientists’ research findings are presented in the current article to prove the existence of links. The author reviews the development history of both types of thinking concepts and draws attention to the democratic nature of critical thought and the “elite” of creative thought. The author presents the most common “myths” concerning creative and CT and argues that they have no evidence in scientific research, but unfortunately do have in pedagogical practice. Reviewed literature proves the presence of similar personal characteristics of creatively and critically minded personalities – curiosity and openness for a new experience, ability to concentrate on work, courage to take risks and responsibility, tolerance for the unknown, acceptance of different opinions and views, ability to analyse and reflect, healthy scepticism, independent opinion formation. Empirical research findings show that Lithuania’s pedagogues indicate and name the same features as mentioned above, but are not able to recognize all of them in their students. Pedagogues as well as education experts associate critical and creative thinking skills with personal and professional success. The author reveals similarities between creative and CT processes by describing them as divergent. “Life cycle” stages show that both processes require time and concentration on the task, involve problem-solving, and search for the best solutions. Lithuania’s pedagogues acknowledge critical and creative thinking as processes, but allocate little time for their experience and reflection on them in a classroom. Creative and CT results are difficult to make evident as they include not only tangible but also “soft” results, such as improved individual approaches, capacities, and processes. Researches’ findings show that students’ projects and creative tasks are considered to be the most evident and easier evaluated results. There is enough evidence of links between critical and creative thinking. However, coherence between both types of thinking and success in personal and professional life has not received sufficient attention in scientific literature. Cases, ethnographic studies, lived experience examples and other types of research could be of great value to prove that critical and creative thinking have a direct impact on personal and social welfare.

What is CT for the author(s)?

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Issues addressed (main idea of the article/publication)

- The “affinities” and differences between the concepts of creative and CT.
- Common “myths” about who can be creative or critical and who cannot.
- The different views of teachers and learners of CT on how CT is developed in general education.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The author reviews the development history of both types of thinking concepts and draws attention to:

- democratic nature of critical thought and the “elite” of creative thought;
- most common “myths” concerning creative and CT and argues that they have no evidence in scientific research, but unfortunately do have in pedagogical practice;
- the presence of similar personal characteristics of creatively and critically minded personality – curiosity and openness for a new experience, ability to concentrate on work, courage to take risks and responsibility, tolerance for the unknown, acceptance of different opinions and views, ability to analyse and reflect, healthy scepticism, independent opinion formation.; findings of empirical research showing that Lithuania’s pedagogues indicate and name the same features, but are not able to recognize all of them in their students;
- pedagogues as well as education experts associate critical and creative thinking skills with personal and professional success.

The benefits, significance, and results of the CT interventions in adult education presented above

According to the articles analysed, the benefits of CT (in a general sense) include:

- the ability to search, select and analyse information, to assess the situation adequately, to record and to “see the big picture”;
- provides an opportunity to think more broadly and deeply;
- provides the opportunity to explore and find unorthodox solutions to problems.

Authors' recommendations and further developments

While there is a large body of research demonstrating the link between critical and creative thinking, the larger link between personal and professional success and creative and CT should receive more attention. This could be supported by case studies, studies of the culture of organizations and communities, testimonies of lived experience, and broader field research. These would be strong arguments, that creative and CT has a direct and decisive impact on the individual, the community, and the whole well-being of the community, community, and society, and must therefore be given the attention it deserves.

The article just read inspired you to formulate another recommendation or further development? Our insight

In the context of adult education, this article inspires us to explore how CT is perceived by those who are not involved in formal education. And not only how they understand it, but also by what signs they recognize it.

Application of critical thinking skills in the activities of consultant

Title of the article/chapter/book: Kritinio mąstymo taikymas konsultavimo veikloje (Application of critical thinking skills in the activities of consultant)

Author(s): G. Tolutienė, G. Butėnienė

Publication date: 2021

Available at: <https://etalpykla.lituanistika.lt/fedora/objects/LT-LDB-0001:J.04~2021~1695299198229/datastreams/DS.002.0.01.ARTIC/content>

Summary: This article seeks to answer problematic questions: do employment service consultants understand enough the importance and meaning of applying CT in counselling? what CT skills affect the quality of a consultant's performance and what factors determine the implementation of CT? what techniques and tools do you use to apply CT? The object of research: application of CT in the aspect of consultant activity.

The aim of the research is to reveal the application of CT in the aspect of the activity of consultants in the employment service.

Objectives of the research: 1) to analyse the theoretical concepts of the concept of CT; 2) examine the application of CT to the experience of consultants working in the employment service.

Research methods: theoretical analysis; qualitative research (partially structured interview).

The survey sample. 9 recruitment and employment support consultants of the employment service were selected for the qualitative research. Study participants were selected using a non-probabilistic selection method using a targeted selection strategy. The age of the study participants varies from 36 to 56 years, the average age is 46 years. The gender of all study participants is female, all have higher education and all work experience in the employment service is more than five years, i. e. ranges from 6 to 26 years, which reveals their professionalism in their professional activities. The main results and conclusions of theoretical and empirical research. CT is a higher level of thinking related to new experiences and new knowledge that promotes the modelling of future actions, and reflective problem-solving by making informed conclusions after analysing operational problems.

Maintaining a quality counselling service requires a continuous effort by the counsellor to apply CT, not only understanding the client's attitude toward the job market or desire to change professions but also helping to achieve his or her aspirations to avoid conflict situations and so on. The analysis of the research results shows that the meaning of CT is perceived by the consultants working in the employment service, as it is related to improvement in practical activities, quality performance, self-assessment, client evaluation, gaining professional trust, and communicating important information to clients. Empirical data reveal that CT in the activities of a consultant is crucial to offer the client effective forms of learning, development, employment, methods, techniques, and tools, helps to know the client and help him get to know himself, his strengths and weaknesses, available and missing resources, encourages the counsellor to reflect, provide constructive and effective feedback, and continually learn and improve their performance. According to the research, the CT of the consultants working in the employment service is important for the quality of counselling, providing effective feedback, reflection of experience, self-knowledge, and analysis of one's strengths, weaknesses, and areas for improvement. To ensure the quality of counselling services, the counsellor needs CT skills that encourage him/her to continuously evaluate and improve his/her activities, and to provide a perspective for professional development. The quality of a consultant's work is determined by CT skills: positive thinking, the ability to analyse emerging issues, assess the changing situation, perform their tasks professionally and

responsibly, encourage the client to analyse the personal situation, listen, and help make decisions. Effective factors of CT implementation include professional reflection, self-education, self-education, rational analysis of information, and practical problem-solving. Applying CT, counsellors reflect on their professional activities, share experiences with colleagues, consult clients, engage in self-education and self-education, plan, coordinate, implement counselling processes, meet the needs of clients, identify learning needs, provide feedback.

What is CT for the author(s)?

CT is a higher level of thinking related to new experiences and new knowledge that promotes the modelling of future actions, and reflective problem-solving by making informed conclusions after analysing operational problems.

Issues addressed (main idea of the article/publication)

- Do enough employment service consultants understand the importance and meaning of applying CT in counselling? YES, THEY DO.
- What CT skills affect the quality of a consultant's performance and what factors determine the implementation of CT? NOT ONLY SKILLS, DISPOSITIONS AS WELL.
- What techniques and tools do you use to apply CT? Not quite clear. Some mismatch between questions and answers. the authors presented such answers: self-reflection; problem analysis and problem-solving; good communication, active listening, empathy.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

How does CT is perceived by counsellors.

How CT is experienced/ applied by counsellors.

The benefits, significance, and results of the CT interventions in adult education presented above

The importance and relevance of applying CT for employment counsellors to their development in practice: quality performance, self-assessment, client assessment, gaining professional confidence, and communicating important information to clients.

A consultant with CT competence, characterized by: positive thinking, the ability to analyse emerging issues, assess changing situations, perform their tasks professionally and responsibly, encourage the ability to listen and persuade the client.

Effective critical reflection, self-education, and self-development are considered to be effective ways and means of applying CT, rational analysis of information, and practical problem-solving.

In implementing CT, counsellors reflect on their professional activity and share their experience with colleagues, providing targeted advice to clients, self-education and self-development

Authors' recommendations and further developments

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The article just read inspired you to formulate another recommendation or further development? Our insight

It would be interesting to explore how CT is understood and experienced by adult teachers and adult learners of different ages, professions, experiences, etc.

Critical thinking education – is it a new sophistic?

Title of the article/chapter/book: Kritinio mąstymo ugdymas – ar tai naujoji sofistika? (Critical thinking education – is it a new sophistic?)

Author(s): T. Saulius

Publication date: 2016

Available at: <https://etalpykla.lituanistika.lt/fedora/objects/LT-LDB-0001:J.04~2015~1599736963304/datastreams/DS.002.0.01.ARTIC/content>

Summary: Today, CT is considered an unquestionable priority of higher education. The article draws attention to the fact that the very idea of CT is vague and intrinsically contradictory, thus, it poses certain risks. There is a tendency to standardize and technologize rationality, treating it in the cybernetic framework of information processing. In addition, quite evident is a tendency to reduce all contexts of thought to polemical contexts. The idea of CT, lacking critical reflection, haphazardly leads to a narrow pragmatism, to the dominance of the *anthrōpos metron* principle in education.

What is CT for the author(s)?

CT is not primarily concerned with the question of whether I should believe/do this, but precisely with the question of what it means, and what is meant here. In other words: how to ensure that CT does not become meaningless in the production and struggle of "straw scares" and combating them? So here the issue is one of understanding.

The problem of interpretation, the solution to which, by the way, requires the "critical thinker" to look back at his own motives and ask why this or that subject is important to him at all.

CT is context-dependent.

CT appears in conversation between ME and YOU.

Issues addressed (main idea of the article/publication)

- CT is linked to competitiveness in the labour market, but higher education institutions need to educate broad-minded people, not tools.
- The postmodern university has a different mission – to educate non-dogmatic, independent minds that do not take for granted any truth without sufficient justification.
- The lack of a definition of CT inspires new sophistry in higher education.
- In today's usage, the term "CT" has become a category whose abstractness falls short of the old metaphysical categories of "good", "being", etc.
- Attempts to apply CT in education practice are put down till argumentation, analysis, logical considerations.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The idea of CT is internally contradictory in its theoretical treatments and educational applications. In practice, CT is narrowed, vague, and, at the same time, distorted from its universal essence.

Today, CT programs include issues related to worldview and moral consciousness, which used to be part of philosophy, and the question of the role of philosophical education is usually left aside. Thus, it is quite reasonable to the suspicion that the absolutization of CT is the result of some little of ideological assumptions.

Secondly, the absolutization of CT at the practical level means the absolutization of argumentation, the imposition of the litigation paradigm on all forms of rationality by setting aside interpretation, adequate understanding issues.

The benefits, significance, and results of the CT interventions in adult education presented above

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Authors' recommendations and further developments

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The article just read inspired you to formulate another recommendation or further development? Our insight.

A very good article that points out that in order to “instrumentalize” CT, we simplify it, making it sometimes primitive. At the same time, without understanding its essence and without being able to define it, we make it a kind of “phantom”. The author draws attention to CT as deeply self-reflexive and contextual, which is difficult to frame, but at the same time can be practiced through reflection, debate, and contemplation.

The critically thinking employee: Employers’ point of view

Title of the article/chapter/book: The critically thinking employee: Employers’ point of view

Author(s): V. Indrašienė, V. Jegelevičienė, O. Merfeldaitė, D. Penkauskienė, J. Pivorienė, A. Railienė, J. Sadauskas, N. Valavičienė

Publication date: 2020

Available at: <https://etalpykla.lituanistika.lt/fedora/objects/LT-LDB-0001:J.04~2020~1599460759063/datastreams/DS.002.1.01.ARTIC/content>

Summary: CT is one of the most significant skills and abilities, which have a direct impact on individual success and society’s welfare. Especially loud is the voice of employers drawing attention to the need for CT skills in the labour market and in a rapidly changing world in general. The World Economic Forum (Desjardins, 2018) indicated the ten most wanted and needed skills in the labour market in 2020: CT was placed at number two, following problem-solving at number one. The American Management Association (AMA) Critical Skills Survey (2010, 2012) revealed that, according to employers, employees need to think critically, solve problems, innovate, collaborate, and communicate more effectively – they must excel at the “four Cs”: CT, communication, collaboration, and creativity. The goal of this article is to find out what and how employers with different managerial experiences see critically thinking employees in today’s labour market. The research is based on phenomenography methodology and is the first such type of research about CT in Lithuania. The phenomenography study revealed three hierarchically interconnected categories: A – decision to act here and now; B – verified and assured decision to act. C – innovative decisions for operational improvement. Empirical data allows for identifying CT-related expectations of employers who anticipate that their employees could deal with emerging situations and can reason chosen decisions. Employers state that the critically thinking employee could give innovative suggestions; research participants describe CT as higher-order reasoning that gives added value to an organization. Such understanding reflects the definition of CT as a cognitive endeavour, directed to functionality in making decisions and solving particular problems. Employees’ CT manifests at personal, interpersonal, and societal levels.

What is CT for the author(s)?

For this team of researchers, CT is an integral and necessary part of the life of individuals and society as a whole. Criticality is the quintessence of CT and manifests itself in the totality of knowledge, attitudes, values, and skills in everyday and professional life. As educators, we strive to nurture criticality in our students throughout their lives. As researchers, we aim to notice significant details and nuances of the concept, but also want to be able to see the whole of the phenomenon, revealing its essence. And of course, be able to name it.

N.B. This concept comes from the other publication (the monograph *Critical thinking in higher education and labour market*. <https://library.oapen.org/handle/20.500.12657/51155>)

Issues addressed (main idea of the article/publication)

- Much research does not consider the employers' perspective or workplace characteristics and empirical studies aiming to characterize how CT is needed, understood, and applied in the workplace remain scarce.
- Research shows that there is a big gap between declarations in policy documents and the situation in the labour market.
- The lack of research, the contradictions between declarations and labour market reality, and inadequacy between training of CT skills and organizations' needs presuppose the relevance of this article which aims to fill the evidence-based knowledge gap.
- The goal is to find out what and how employers with different managerial experiences see critically thinking employees in today's labour market. The research is based on phenomenography methodology and is the first such type of research about CT in Lithuania.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

Critically thinking employee is recognized as: a) deciding to act here and now; b) making verified and assured decisions to act; c) making innovative decisions for operational improvement.

A decision to act here and now relates to reasoned decisions; a verified and assured decision is connected with analysing; innovative decisions are associated with new ideas for organizational progress.

Research data show that CT manifests at three levels: personal (me), interpersonal (me and you), and societal (me and professional community).

The benefits, significance, and results of the CT interventions in adult education presented above

The findings of the research have theoretical, methodological, and practical significance.

This is the first phenomenography research in Lithuania on employers' experience with the expression of CT of employees.

Research about the match of employees' CT skills with the expectations of employers and labour market needs in Lithuania extends the field of phenomenography studies worldwide about CT.

Empirical data allow identifying CT-related expectations of employers who anticipate that their employees could deal with emerging situations and can reason chosen decisions.

Employers state that the critically thinking employee could make innovative suggestions; research participants describe CT as higher-order reasoning that gives added value to an organization. Such understanding reflects the definition of CT as a cognitive endeavour, directed to functionality in making decisions and solving particular problems.

CT by employees manifests at personal, interpersonal, and societal levels. Employers explain CT as employees' skills to make decisions and justify them as reasonable at all levels. Another important element of CT is employees' skill in working together with others.

Authors' recommendations and further developments

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The article just read inspired you to formulate another recommendation or further development? Our insight.

While CT is mainly seen as contributing to concrete, tangible results, it is also seen as a worker's attitude and mindset.

It is a very significant decision to look at CT at the personal, interpersonal, and societal levels, and at the same time to recognize its manifestation at these three levels.

Critical thinking in higher education and labour market

Title of the article/chapter/book: Critical thinking in higher education and labour market

Author(s): V. Indrašienė, V. Jegelevičienė, O. Merfeldaitė, D. Penkauskienė, J. Pivorienė, A. Railienė, J. Sadauskas, N. Valavičienė

Publication date: 2021

Available at: <https://library.oapen.org/handle/20.500.12657/51155>

Summary: The monograph consists of an introduction, six parts, conclusions and recommendations. The purpose of the first chapter of the monograph **The Concept and Context of Critical Thinking in Higher Education and the Labour Market** reveals the relevance of CT in the contexts of higher education and the labour market and presents the importance of defining the concept of CT. The second chapter of the monograph **Analysing the Concept of Critical Thinking in Higher Education: Systematic Literature Review** presents, based on a systematic literature review, the dynamics of the concept of CT in scientific publications from different periods in the context of higher education and to reveal the multidimensionality and comprehensiveness of CT. The third chapter of the monograph **Critical Thinking as a Unique Competence: Evidence from Higher Education Studies** reveals the expression of CT in higher education by analysing higher education study programmes and course descriptions. The fourth chapter of the monograph **Critical Thinking in Study Process and Labour Market: Phenomenographic Study** reveals how teachers, students, employers and employees understand CT, and how CT manifests itself in the specific context of studies and the labour market. The fifth chapter of the monograph **Critical Thinking Competence in Study Process and Labour Market: A Quantitative Study** reveals how teachers, students, employers and employees define CT, and what their attitude is towards the development of CT skills and dispositions and their importance in the modern labour market. The sixth chapter of the monograph **Linking Critical Thinking Development in Higher Education and Demand in Labour Market** provides insights into the understanding, experience and expression of CT in higher education and the labour market and elucidates the links between the development of CT in higher education and demand in the labour market. The monograph ends with conclusions and recommendations for improving CT competency and strengthening it in higher education.

What is CT for the author(s)?

For this team of researchers, CT is an integral and necessary part of the life of individuals and society as a whole. Criticality is the quintessence of CT and manifests itself in the totality of knowledge, attitudes, values, and skills in everyday and professional life. As educators, we strive to nurture criticality in our students throughout their lives. As researchers, we aim to notice significant details and nuances of the concept, but also want to be able to see the whole of the phenomenon, revealing its essence. And of course, be able to name it.

Issues addressed (main idea of the article/publication)

- The vagueness of the conception of CT.
- Lack of communication and cooperation at the higher education institution in efforts to develop CT.
- The lack of naming the phenomenon and highlighting its importance not only in official rhetoric, but also in real practice, makes mutual communication very difficult not only at the institutional level, but at other levels as well – education policy, education sciences and academic practice, and education and labour market institutions.

The objective of this project is to research the correspondence of higher education studies to the need for CT expressed by the labour market. The totality of the study is reflected in the following problematic questions:

- What is considered CT in the contexts of higher education and the labour market? What are the constituents of the conception of CT?
- How is CT understood (what real significance do higher education and labour market participants attach to it) and manifested in higher education studies and the labour market?
- What are the links between the development of CT competence in higher education and the needs of the labour market?
- What should the development of CT look like in higher education in order to reach an agreement on the educational significance and practical value of CT?

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The monograph shows CT to be contextual, and context to be multi-layered as well as multidimensional.

The monograph documents that while CT is broadly regarded to be important and even essential, it should not be taken for granted.

The monograph reveals not uniformed understanding and experiencing of CT, as well as the value of it for a person, community and society as a whole.

The benefits, significance, and results of the CT interventions in adult education presented above

The scientific/practical value of the monograph is based on the fact that:

- the conception of CT is revealed through a systematic analysis of scientific literature published over the course of two decades;
- a detailed analysis of study programme and course descriptions in various study fields is carried out from the aspect of CT development;

- the authentic attitudes of teachers, students, employers and employees towards CT is revealed;
- the coherence of the development of CT in higher education with the practical application of CT skills in work activities is evaluated using mixed method research;
- the multifaceted approaches and methods of CT research are highlighted.

The fact that CT is treated as a multifaceted and multi-layered phenomenon is shown by both the results of the analysis of the scientific articles and study programme descriptions, and the results of the phenomenographic study and quantitative survey. CT is perceived as deep, comprehensive and substantiated reasoning, as a reflexive disposition aimed at self-improvement, as an effective problem-solving tool, as a manifestation of creativity, and as a sign of civil society. In principle, all of the descriptions find reverberation in scientific literature and are in line with one or another conception. Very often, CT is equated not only with creativity and innovation, but also with tolerance of the unknown, crisis management, a wealth of knowledge, and erudition. In order to provide targeted and scientifically based CT education, it is necessary for teachers to decide what scientific attitude and concept will be followed in the subject they are teaching. The diversity of conceptions and scientific approaches offers a wide range of options. There are sufficient examples illustrating the development of CT based on specific scientific approaches and attitudes.

Authors' recommendations and further developments

Documents governing studies should go beyond declarations of the importance of CT, and should clearly specify how CT will be developed (also relevant for adult education).

- In order to ensure that the development of CT in students at institutions of higher education is a conscious, coherent and science-based process, it should first be agreed at the university, faculty or programme level what theoretical assumptions are and will be used as the basis for constructing the concept of CT. What the content of the conception of CT will be and, accordingly, what CT skills, dispositions will be developed and by which methods, depend on this agreement (also relevant for adult education).
- Study programmes should be prepared, updated and improved in accordance with the agreed conception of CT and the systematic attitude that CT has to be developed in all study subjects, using teaching, study (learning) and assessment methods that promote CT (also relevant for adult education).
- It should be clearly presented to students what is considered CT, and how it manifests itself in the specific curriculum and/or professional field (also relevant for adult education).
- Researchers should be encouraged, alongside their existing knowledge of CT theories, to develop their own authentic theoretical insights and theoretical lines, and thus contribute to the development of theoretical thought in CT (also relevant for adult education).
- CT should be positioned as a synthesis of cognitive abilities and dispositions, and this attitude should be followed in preparing and/or updating study programmes (also relevant for adult education).
- During studies, sufficient time and attention should be devoted to recognizing and experiencing CT processes, and CT should be evaluated as a learning process (also relevant for adult education).
- During lectures and seminars, sufficient time and attention should be devoted to discussing the results of CT and revealing their diversity and practical value (also relevant for adult education).

- More attention should be devoted in research to studying CT dispositions (also relevant for adult education).

Course descriptions should not only declare developing the competency of CT as a goal or intended result, but also provide student-centred active teaching/learning/study methods, enabling students to apply newly learned subjects and receive teacher feedback (also relevant for adult education).

- After formulating or updating a programme's learning outcomes, the subject teachers should discuss together the study (learning) and assessment methods that are planned to be used to encourage CT in students. This would create conditions for maintaining the coherence of study (learning) and assessment methods and their systematic application by ensuring the conceptual links between the subject being studied and the development of CT (also relevant for adult education).
- At the beginning of the course, teachers should accurately define the learning outcomes that focus on the development of CT in the learning process. The aim is to apply/develop innovative strategies for the evaluation and self-evaluation of CT skills that could be used at both the personal and interpersonal level. Feedback processes should encourage CT and enable students to learn not only from the comments of their teacher or peers, but also using meta-processes, for example, by thinking over and evaluating the learning process or outcomes (also relevant for adult education).
- Teachers should think out and prepare tasks for students which prompt them to learn to look for solutions and work independently, encourage their cooperation, and link new knowledge with real life or real-life situations or problems (also relevant for adult education).
- Teachers should be given incentive and the opportunity to improve their CT development competencies through purposeful learning – by delving into scientific literature, participating in conferences and seminars on CT, attending lectures given by more experienced colleagues, or organizing professional discussions on CT development issues (also relevant for adult education).
- Teacher competence development programmes should be initiated and prepared which not only introduce the pedagogical and didactic aspects of the development of CT, but also create conditions for applying this knowledge in practical teaching activities and reflecting and discussing in pursuit of the best results (also relevant for adult education).
- In order to ensure the relevance of study programmes, the various changes in the labour market should be studied and reflected in the curriculum.
- The study process should involve teaching and learning based on real-life simulations and should include work-based learning; specific examples should be used that illustrate how CT can contribute to the well-being of others, solutions to current societal problems, and creation of the common good (especially relevant for adult education)

Research should be focused on revealing the value of the interpersonal and social dimension of CT (especially relevant for adult education).

- Research should be focused on the analysis of CT development in the widest possible range of study programme contexts (also relevant for adult education).
- The systematic development of CT should be studied, looking for links between programme regulations and study descriptions, real teaching and learning practices and the desired result (also relevant for adult education).

The development of CT should continue to be embedded into context as much as possible, disclosing its importance not only in the personal and professional field, but also in the broader context of community, country and world phenomena (especially relevant for adult education).

- Local, regional and societal issues should be included in study programmes, thus creating conditions for students' CT skills to be manifested in a broader context. In other words, the development of students' abilities to apply theoretical knowledge in practice by analysing and solving real situations or providing simulations (especially relevant for adult education).

Favourable and unfavourable contexts for CT should be studied, revealing the prerequisites, conditions and circumstances for the development of CT in higher education (especially relevant for adult education).

- The long-term consequences of developing CT should be explored and what ensures their longevity and sustainability should be examined (also relevant for adult education).
- More attention should be given in the study process to the aspect of criticality, by teaching students self-analysis and self-reflection. Students should also be allowed to make mistakes and correct themselves, constantly improve their work, and analyse various situations and phenomena related to issues of truth and rightness not only in the professional context but also in the broader social context (especially relevant for adult education).
- Manifestations of criticality should be explored in more depth in various contexts of academic, professional, and social life to reveal the uniqueness and value of the conception of CT (especially relevant for adult education).

The article just read inspired you to formulate another recommendation or further development? Our insight.

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Latvia's experience/scholarship review on CT in adult education

Critical thinking: Education, media literacy, judgement

Title of the article/chapter/ book: Kritiskā domāšana: izglītība, medijpratība, spriestspēja (Critical thinking: Education, media literacy, judgement)

Author(s): M. Kūle (scientific editor)

Publication date: 2018

Available at:

https://dspace.lu.lv/dspace/bitstream/handle/7/45982/Euro_Kritiska_domasanas.pdf?sequence=1&isAllowed=y

Summary: The study “Critical Thinking, Media Literacy and Judgement” looks at CT in education, but it is not limited to one sector. The study provides recommendations for decision-makers and is an important resource for promoting CT skills in society at large. It is therefore a valuable resource not only for educational institutions but also for the wider public to develop a critical view of information and to promote the ability to analyse and evaluate different issues.

What is CT for the author(s)?

CT is a skill that enables us to analyse information, evaluate arguments and make informed decisions.

Issues addressed (main idea of the article/publication)

The most important topics:

- Developing CT in education. The study assesses the situation of CT in education and analyses possible ways to improve it.
- CT and media literacy. This topic is particularly relevant in today's information technology age, when false news and misinformation spread rapidly. The study addresses ways how to promote a critical view on information and prevent misinformation.
- This study provides recommendations and is an important resource for promoting CT skills in society.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

CT is a skill that enables us to analyse information, evaluate arguments, and make informed decisions. It is important not only in education but also in adult life. To develop CT, the following tips may be useful for adults:

Checking sources: it is important to check the credibility of sources before believing or sharing information. Ask yourself: is this source familiar and credible? Is it scientifically sound or just a subjective opinion?

Analyse the context: Use CT to understand the information in context. Why is the fact or message important? What other explanations could there be?

Educate yourself: Keep learning and educating yourself. Read books, attend lectures, participate in discussions. The more you know, the better you can evaluate information.

Critical attitude towards the media: be critical of news sources and their content. Be critical of news sources. The media can be biased or spread unverified information.

Discuss with others: Share your thoughts and opinions with others. Discussions can help to examine issues from different perspectives.

Check the facts: Before sharing news or facts, make sure they are backed up by facts and reliable sources.

The benefits, significance, and results of the CT interventions in adult education presented above

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Authors' recommendations and further developments

A critically thinking adult public is better equipped to recognise misinformation and make informed decisions.

How to promote a critical view of information and preventing misinformation:

- Checking sources: it is important to check the credibility of sources before believing or sharing information. Ask yourself: is this source familiar and credible? Is it scientifically sound or just a subjective opinion?
- Fact-checking: Before sharing news or facts, make sure they are based on facts and credible sources. Avoid sharing unverified information.
- CT: Learn to analyse information from multiple perspectives. Ask yourself: Why is this fact or message important? What other explanations could there be? Why is this source publishing it?
- Media literacy: learn to recognise the signs of media manipulation. This includes headline clicking, incomplete information, unsubstantiated claims and other tricks to attract attention.
- Be critical of social media: Social media is a place where misinformation often spreads. Before sharing a post, make sure it is substantiated and verified.
- Education: Take educational measures to inform the public about the risks of misinformation and ways to prevent it.

The article just read inspired you to formulate another recommendation or further development? Our insight.

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Thinking art for everyone or how to think with joy and excitement

Title of the article/chapter/ book: Domāšanas māksla ikvienam jeb kā domāt ar prieku un azartu (Thinking art for everyone or how to think with joy and excitement)

Author(s): Izglītības attīstības centra (Education Development centre)

Publication date: 2010

Available at: publishing house NORDIK

Summary: The book contains analytical articles by various authors (education experts, journalists, municipal politicians, entrepreneurs, etc. professionals) on the role of CT for everyone in the context of lifelong learning. The articles are based on everyday examples; include examples of problem solving and different situations and tasks for CT. In this book, EDC draws on the experience gained in CT and on the assessment of a diverse range of target groups to propose different action strategies for the wider implementation and effectiveness of the approach to developing CT in the Latvian education system and society as a whole.

What is CT for the author(s)?

The need for CT skills – to analyse information, communicate, collaborate and make responsible decisions – is a pressing issue in Latvian society, so that in today's changing world and globalisation people become co-responsible for the processes taking place in the society. This is an essential aspect for promoting social inclusion and diversity.

Society needs people who are creative, practical, but above all smart and thoughtful.

Issues addressed (main idea of the article/publication)

This book helps us to understand that active and engaged citizens need to be creatively flexible; to respond to rapid changes in their environment, to think critically about what the media, reporters, politicians, advertisers, scientists tell them. Such citizens need to be able to implement their ideas and convince others of their value and to use their knowledge wisely in their professional work and interactions. This book, a methodological publication, helps those involved in lifelong learning and society as a whole to develop an understanding of the nature of the CT approach and the importance of using it to nurture and educate thinking citizens in Latvia, to encourage thinking and to develop thinking skills throughout life. Thinking skills are interlinked; we classify and compare information to make decisions. When solving a problem, we usually think about the problem to be solved, the decision to be made, the most valid argument. By reflecting on how we have thought – we can evaluate the effectiveness of our thinking, what were the strengths and weaknesses of the process, thus creating opportunities to improve the process.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

The book encourages thinking and responsible action through a variety of articles, exercises and examples that relate to real life and real applications. The book includes articles on:

- **Why thinking is important.** Who am I? How do you think? Maybe those who say that you are what and how you think, are right?
- **Not limiting the field of thinking.** Conversation with prominent people in Latvia on different points of view on the topic. Discover how much is still puzzling and misunderstood about thought processes.

- **Thinking in action.** How we can assess the ways we use and develop thinking skills in our daily lives with examples from practical situations.
- **What is knowledge.** Helping to find answers to the questions: How can our understanding and knowledge influence how knowledgeable or ignorant we are? What kind of knowledge most determines our actions? How can knowledge influence thinking and how can thinking influence knowledge?
- **How to exercise thinking.** Introducing different thinking skills and how to participate in problem solving, how to evaluate the effectiveness of your own thinking.
- **How questions drive thinking.** Learning about the variety of questions, their role in stimulating thinking and how they can be used in practice not only to get answers but also to encourage analysis of existing information, drawing conclusions, expressing opinions, reasoning, debating, predicting and generating new theories.
- **What goes on in the head or the thought path.** What is going on in your brain while you are thinking and learning? A chance to assess your untapped potential and understand how to think better.
- **How I think.** Finding out what curiosity, inquisitiveness is and what makes you want to know or learn something new.

The benefits, significance, and results of the CT interventions in adult education presented above

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Authors' recommendations and further developments

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The article just read inspired you to formulate another recommendation or further development? Our insight.

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Romania's experience/scholarship review on CT in adult education

Adult training in Romania – critical analysis

Title of the article/chapter/book: Adult training in Romania – critical analysis (chapter in E. Soare, & C. Langa (Eds.), Education facing contemporary world issues, vol. 23. European Proceedings of Social and Behavioural Sciences)

Authors: A. R. Mihăilă, M. E. Păduraru

Publication date: 2017

Available at: <https://www.europeanproceedings.com/article/10.15405/epsbs.2017.05.02.168>

Summary: The paper aims to highlight aspects of adult education in Romania, including the institutions responsible for adult training and the current trends in the field. It focuses on factors affecting the choice of training courses for adults, ways of accessing information about training courses, and the main fields covered by training providers in Romania.

What is CT for the author(s)?

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Issues addressed (main idea of the article/publication)

- The main idea of the article is to analyse adult education in Romania.
- The article aims to explore the opinions and factors affecting the choice of training courses for adults.

Details of issues tackled by the author(s) (programs, subjects, methodology, procedure)

Subjects: 114 adult respondents, aged between 18 and 60 years. Survey respondents are active adults in the labour market, adults who participate in professional reconversion programs and students.

Methodology: quantitative research method for gathering information (questionnaire-based survey).

Procedure: The research was conducted online between 03.06.2016 – 12.06. 2016. The instrument used was the questionnaire to which 114 people responded. The questionnaire was disseminated using online platforms in virtual environments. Subjects responded to a total of 10 questions. Completion of the questionnaire took an average of 7 minutes.

The benefits, significance, and results of the CT interventions in adult education presented above

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Authors' recommendations and further developments

It should be paid more attention to promoting training courses so that adults can find out about them more easily and also, training courses should be more closely linked to labor market needs.

The article just read inspired you to formulate another recommendation or further development? Our insight.

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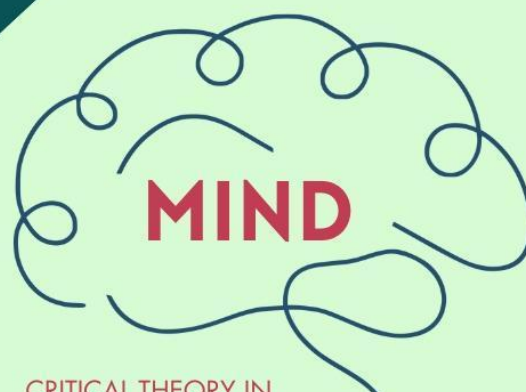
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CRITICAL THEORY IN
ADULT EDUCATION PRACTICE:
EMPOWERMENT FOR CRITICAL ACTIONS



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