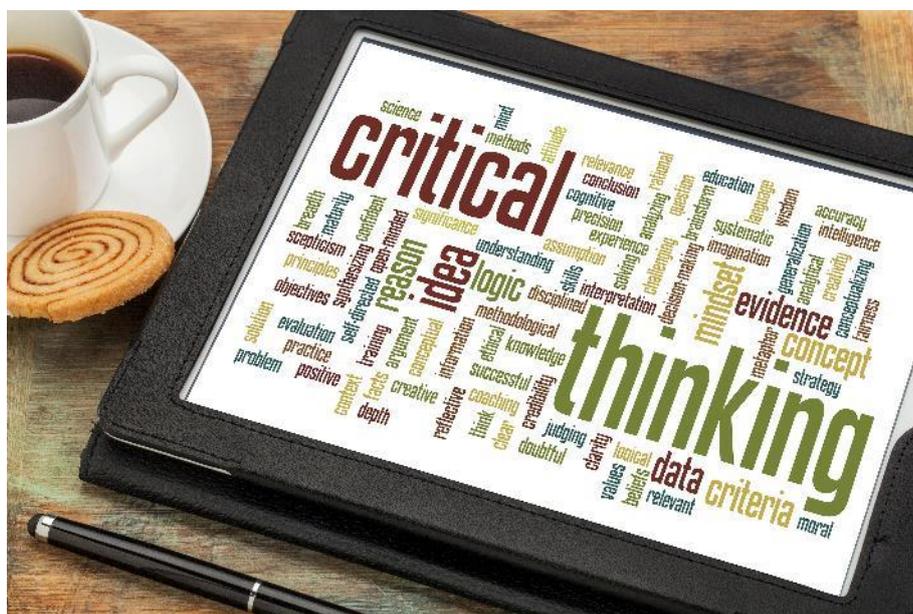


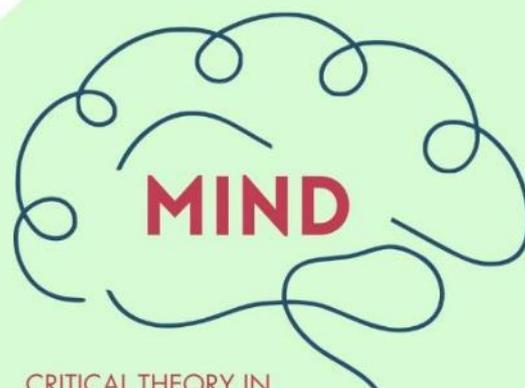
Critical thinking in adult education. Compendium of ideas (worth reading)



AUTHORS

COORD.: DANIELA DUMITRU, RAMONA-ELENA
RICHÎTEANU-NĂSTASE, MIHAELA MINCIU,
MONICA PĂDURARU

RESEARCH TEAM: DAIVA PENKAUSKIENĖ, PETRA
KATANA, ANTONELA MARJANUŠIĆ, IVETA VERSE,
SANDRA KALNIŅA, ROBERT MIHĂILĂ, CAMELIA
STĂICULESCU



CRITICAL THEORY IN
ADULT EDUCATION PRACTICE:
EMPOWERMENT FOR CRITICAL ACTIONS

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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 critical thinking 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 critical thinking in adult education.

The literature consulted indicated that there is no national specificity for adult education or for critical thinking. We identified several strategies, including problem-based learning and self-directed learning which are common both in adult education and critical thinking 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 critical thinking 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 critical thinking 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:

1. Recommended keywords for Boolean search:

- critical thinking AND non-formal education AND adult education

- critical thinking 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.

2. 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 critical thinking 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, critical thinking programs for adult education in non-formal settings, in order to have a starting point for creating our training program to enhance critical thinking 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 critical thinking 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	"correct evaluation of statements"
McPeck, 1981	"the intelligent exploitation of all relevant evidence in order to solve a particular problem"
Chance, 1986	"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	"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	"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	"a systematic and active process of comprehension and evaluation of arguments"
Moore & Parker, 1991	"careful and intentional determination of the acceptance, rejection or suspension of the judgment"

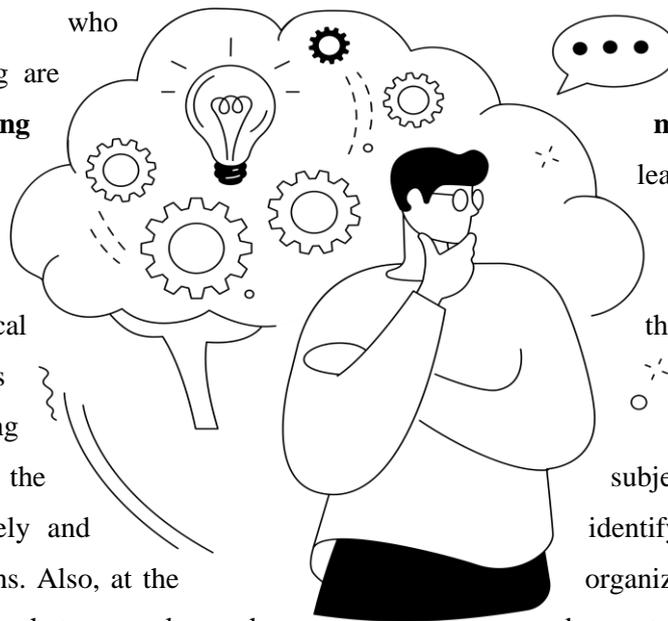
Behar-Horenstein & Niu, 2011; Snyder & Snyder, 2008; Smith, 2003	"controlled reflective thinking using active argumentation, logical reasoning, inference and appreciation of information in making valuable judgements"
Burn & Sinfiled, 2016	"critical thinking is making clear, reasoned judgments based on interpreting, understanding, applying and synthesizing evidence gathered from observation, reading, and experimentation"
D.Halpern	"critical thinking 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"
M. Lipman	"critical thinking is thinking that promotes judgement by being criteria-based, self-correcting and context-sensitive"
D. Hatcher, L. Spencer	"critical thinking 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 critical thinking 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 employ critical thinking are often said to possess a **critical thinking mindset**, though this skill is acquired through learning and practice, rather than an innate trait.

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



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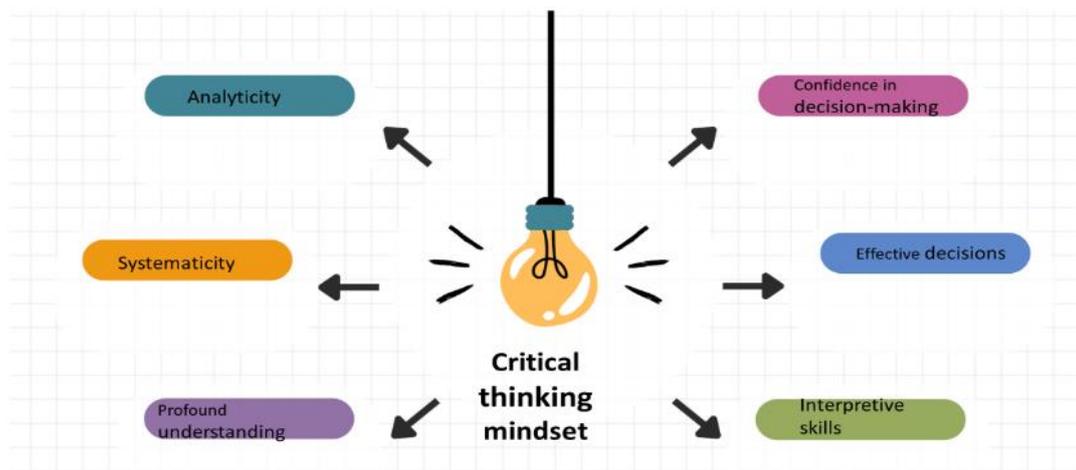


Figure 1. Critical thinking mindset. Source: authors adaptation from Paul and Elder (2006)

profession (Penkauskienė, Railienė, & Cruz, 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



Figure 2. Critical thinking skills. Source: authors representation from Facione (1990)

The WSU guidelines define seven essential elements of critical thinking: 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).

Delphi Project experts identify the following set of cognitive skills as the central dimensions of critical thinking:

1. Interpretation
2. Analysis
3. Evaluation
4. The inference
5. The explanation

6. Self-regulation. (Facione, 1990, apud Dumitru, D. 2013, p.28-33)

Each of the six skills described comprises subordinate skills.

1. 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.

2. 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.

3. 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 critical thinking are the evaluation of statements and the evaluation of arguments.

4. 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.

5. 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.

6. 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, critical thinking 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 critical thinking. Facilitating critical thinking 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 critical thinking 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 critical thinking.

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 critical thinking skills through active engagement with the material.

4. *Providing Opportunities for Reflection:* Reflection is essential for deepening understanding and refining critical thinking 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 critical thinking 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 Critical Thinking Skills:* Adult educators should model critical thinking skills in their teaching practices.

7. *Providing Constructive Feedback:* Feedback is essential for guiding students' critical thinking

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 critical thinking skills.

Overall, facilitating critical thinking 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 critical thinking that consists of a five-phase approach (Garrison, 1992): 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.

Garrison (1991) suggested a conceptual model for developing critical thinking in adult learners:

- 1) problem identification – an initial phase of critical thinking;
- 2) problem definition – thinking becomes directed and purposeful;
- 3) exploration – from the world of facts to the world of ideas;

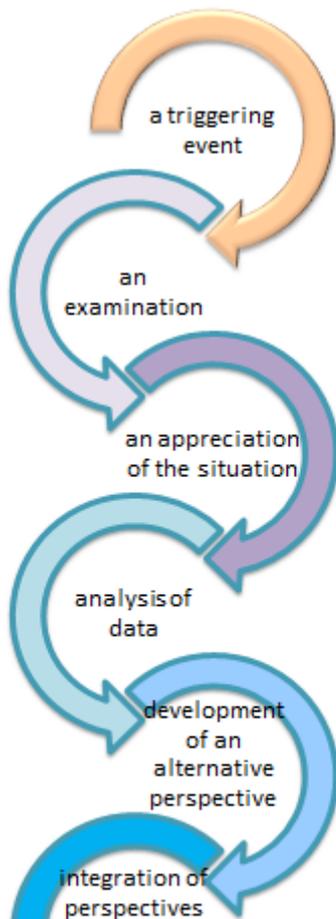


Figure 3. Critical thinking model for adult education. Source: authors representation of Brookfield (1987) and Garrison (1992)

4) applicability - ideas are explored through abstract thought;

Figure 4. Critical thinking for adult learners. Source: authors representation of Garrison (1992)

5) integration – the final phase, represents the applicability of the idea.

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

The literature on critical thinking 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, Pashchenko, and Mikhailova (2023) address the critical thinking 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, Khill, Pashchenko, and Tarasova (2022), includes developing a computer-based test to assess CT in adult learners.

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

Brookfield, Archibald, and Neubauer (2018) link evaluative thinking with critical thinking 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, Callahan, Kaepfel, and Elliott (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.

Joann M. Vaske (2001) reviews different models for developing CT in adult education, including the problem-solving model, perspective transformation, and a five-phase model of critical thinking. 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.

Alexis 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.

Olena 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, Grotlüschen, Tout, and Kaise (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.

De Camillis et al. (2020) examine the critical competencies required of adult educators using Bronfenbrenner's bioecological model. They identify pedagogical, relational, contextual, and reflective competencies as essential for effective adult education.

Santos-Meneses, Pashchenko, and Mikhailova (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 critical thinking in adults highlights a series of benefits of developing critical thinking 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, Iddo; Grotlüschen, Anke; Tout, Dave; Kaiser, Gabriele, 2020)

Olena 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 focusses 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 critical thinking skills through training. (A.R. Sadova, J.S. Khill, N. Pashchenko, K V Tarasova, 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, Magnus, 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, Hulya Kosar 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, Herbert, 2017)

Regardless of the type of research, we can observe the need for a conceptualization of CT for a narrower conceptualization of critical thinking (Vaske, Joann M., 2001) but also the lack of tests for assessing critical thinking competence in adults. (A.R. Sadova, J.S. Khill, N. Pashchenko, K V Tarasova, 2022)

Recommendations and further developments

The most relevant articles selected for the approach of critical thinking 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).

Critical thinking in the context of adult learning through PBL and e-learning: A course framework, Santos Meneses, Luis & Pashchenko, Taras & Mikhailova, Aleksandra
Critical Thinking In Adult Education: An Elusive Quest For A Definition Of The Field (Dissertation), Joann M. Vaske
Critical Thinking Assessment in Adults: Methodology and Development Experience, A.R. Sadova, J.S. Khill, N. Pashchenko, K V Tarasova
Critical Thinking In Older Adult Education: The Contribution Of Aesthetic Experience, Alexis Kokkos
Advancing book clubs as non-formal learning to facilitate critical public pedagogy in organizations, Robin S Grenier, Jamie L Callahan, Kristi Kaepfel, Carole Elliott
Teachers' reflections on their practices in older adult non-formal education, Magnus Schoultz
Numeracy, adult education, and vulnerable adults: a critical view of a neglected field, Iddo Gal, Anke Grotlüschen, Dave Tout, Gabriele Kaiser
Using Critical Thinking Teaching Methods to Increase Student Success: An Action Research Project, Nold, Herbert

Figure 5. Recommendations – Reading Cards
 Source: authors' own contribution

The main features from the search literature are as following:

1. Model for Cultivating Critical Thinking:

Santos Meneses, Pashchenko, and Mikhailova (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, Neubauer, and Brookfield (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 Critical Thinking:

Sadova, Khill, Pashchenko, and Tarasova (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 Critical Thinking:

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 North American model of adult education, focusing on procedural characteristics and suggesting future research directions to analyze these characteristics further (figure 6.)

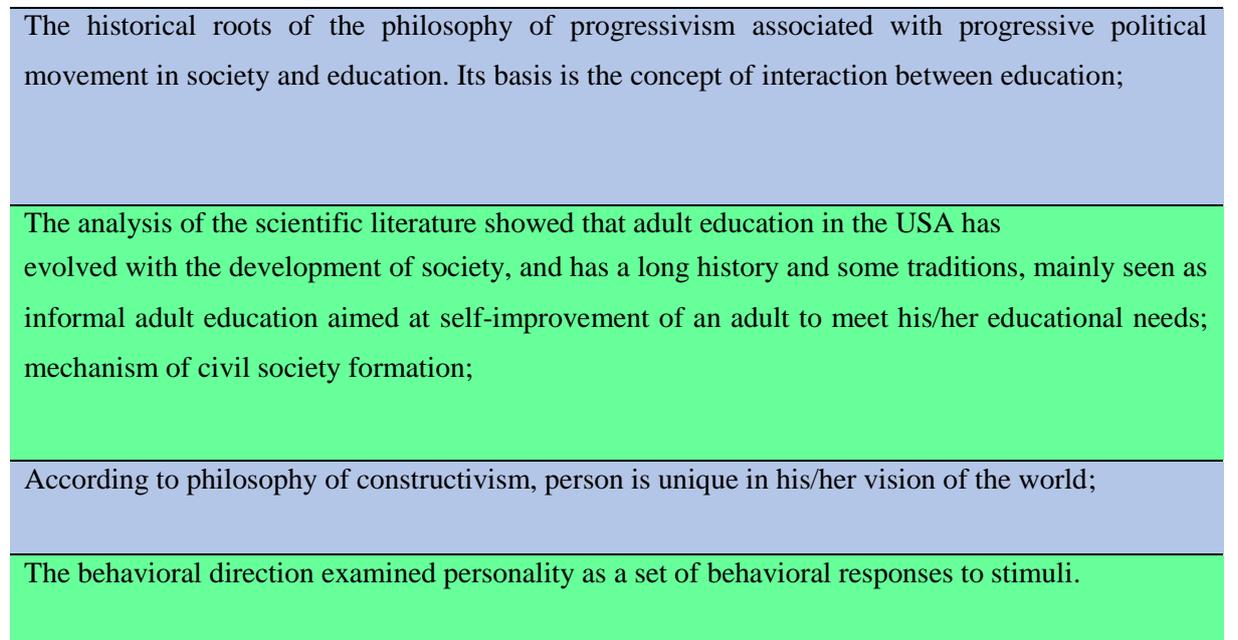


Figure 6. The Northern American model of adult education (Terenko O. 2019)

7. Book Clubs as Non-Formal Learning Spaces:

Grenier, Callahan, Kaepfel, and Elliott (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:

Schoultz (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.

9. Future Research Directions in Numeracy:

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

10. Critical Thinking 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

1. Croatian experience in fostering critical thinking in adult education

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

1. Definitions and Conceptual Understandings

There is a diverse understanding of what constitutes critical thinking among Croatian educators and scholars. For some, critical thinking (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 CP in education, practical application remains inconsistent. For instance, Rautalin (2023) found that students often lack a comprehensive understanding of CT and CP, pointing to gaps in higher education curricula that fail to effectively interlink theoretical knowledge with practical application. Similarly, Buchberger, Bolčević, and Kovač (2018) 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 & Ajduković (2003) demonstrate that active learning methods and interactive teaching can significantly enhance students' engagement and critical thinking 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 & 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 critical thinking 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 critical thinking and its practical implementation. In order to develop a robust framework for educational reform that effectively fosters critical thinking 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.

2. Lithuanian experience in fostering critical thinking in adult education

The interpretations and applications of the concept of critical thinking 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.

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1. Interpretations of the concept of critical thinking

Critical thinking is essential for individual and societal welfare. The 2018 article by Indrašiienė et al. emphasises the crucial role of critical thinking 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 critical thinking 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 critical thinking, integrating insights from diverse disciplinary perspectives. This comprehensive analysis reveals that critical thinking encompasses both cognitive skills and dispositions that facilitate decision-making and problem-solving.

The educational context is also considered. The article also considers how critical thinking is addressed in higher education. The article posits that although critical thinking 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 critical thinking for consultants. In their 2021 study, Tolutienė and Butėnienė examine the manner in which critical thinking is applied by employment service consultants. The research findings indicate that critical thinking 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 critical thinking abilities.

4. The education of critical thinking: Risks and Contradictions

Saulius (2016) raises concerns about the vague and sometimes contradictory nature of critical thinking as it is applied in higher education. He posits that the undue emphasis on critical thinking 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 critical thinking in the workplace. It is evident that employers place a high value on critical thinking, as it enables them to make reasoned decisions, innovate in problem-solving, and enhance operational efficiency. The study identifies a discrepancy between the critical thinking skills that are promoted in educational policies and the actual needs of the labour market. Employers anticipate that employees will be able to apply critical thinking 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 monograph "Critical Thinking in Higher Education and the Labour Market" by Indrašienė et al. (2021) examines the significance of critical thinking in academia and the workforce. The monograph examines the conceptualisation of critical thinking, its integration into higher education curricula, and its significance in the labour market. The authors emphasise the contextual and multidimensional nature of critical thinking, addressing issues such as the lack of clear definitions and insufficient coordination in developing these skills within educational institutions. The monograph provides comprehensive insights through systematic literature reviews, program analyses, and mixed-method research. It offers recommendations to enhance critical thinking development, emphasising the need for clear guidelines, practical applications, and interdisciplinary approaches.

The exploration of critical thinking 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 critical thinking skills in real-world contexts. It is recommended that educational institutions place greater emphasis on the practical applications of critical thinking, 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 critical thinking 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.

3. Latvian experience in fostering critical thinking in adult education

In the study "Critical Thinking Education, Media Literacy, Judgement" led by scientific editor Prof. Maija Kūle and conducted at the University of Latvia in collaboration with various departments and institutions, explores conjoined aspects of critical thinking, media literacy, and judgement. The study, published in 2018, extends beyond the domain of education to address the broader societal implications of critical thinking skills. The study provides insights and recommendations for decision-makers, advocating for the promotion of critical thinking abilities across different sectors. The study specifically evaluates the current state of critical thinking in education, examines the intersection of critical thinking 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", comprises analytical articles contributed by various professionals, including education experts, journalists, and politicians. The publication serves as a guide for fostering a culture of critical thinking 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 critical thinking skills in decision-making and problem-solving scenarios.

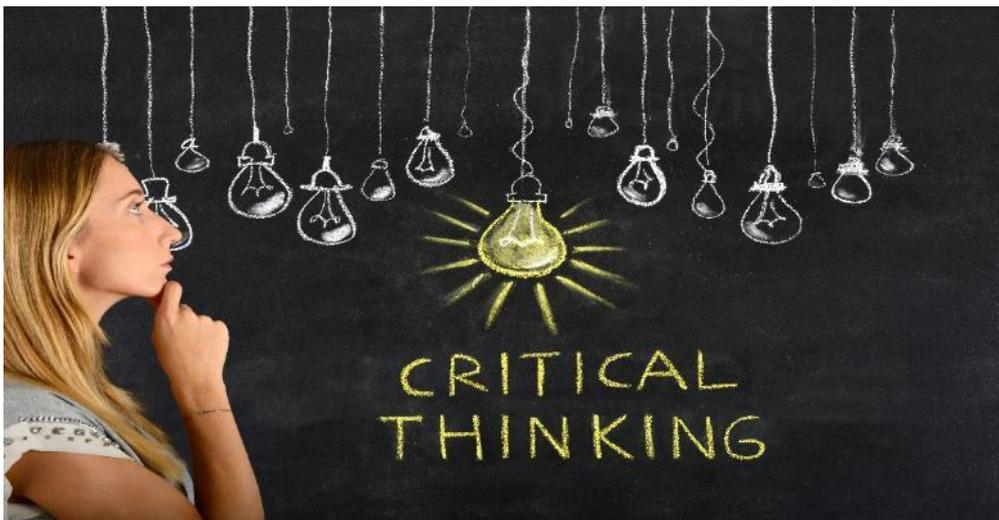
Concluding, the promotion of critical thinking enables individuals to navigate challenges, distinguish between truth and misinformation, and engage in constructive dialogue and problem-solving processes.

4. Romanian experience in fostering critical thinking in adult education

The article "Adult Training in Romania - Critical Analysis" 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.

22

Why do adults need critical thinking?



In the face of global issues, critical thinking becomes an integral part of the basic skills needed for a successful future life (OECD, 2018). Critical thinking 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). Critical thinking 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

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 critical thinking in adults impact family and friends?
3. How does developing critical thinking in adults affect broader social interactions?
4. How does the development of critical thinking in adults impact their work?
5. How does developing critical thinking in adults affect processing information in the online environment?
6. Does the development of critical thinking 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 **critical thinking 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 critical thinking 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)

Critical thinking 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 critical thinking 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, critical thinking 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 critical thinking 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 critical thinking (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 critical thinking skills necessary for personal and professional success in a rapidly changing world.

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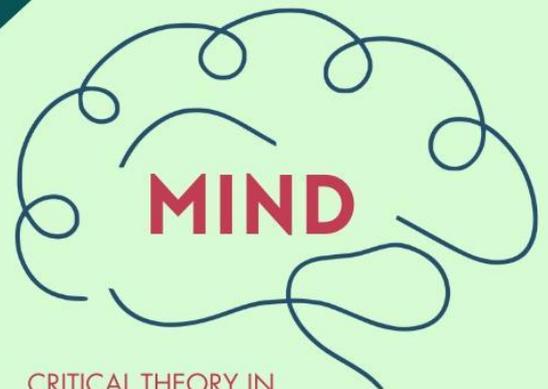
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CRITICAL THEORY IN
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