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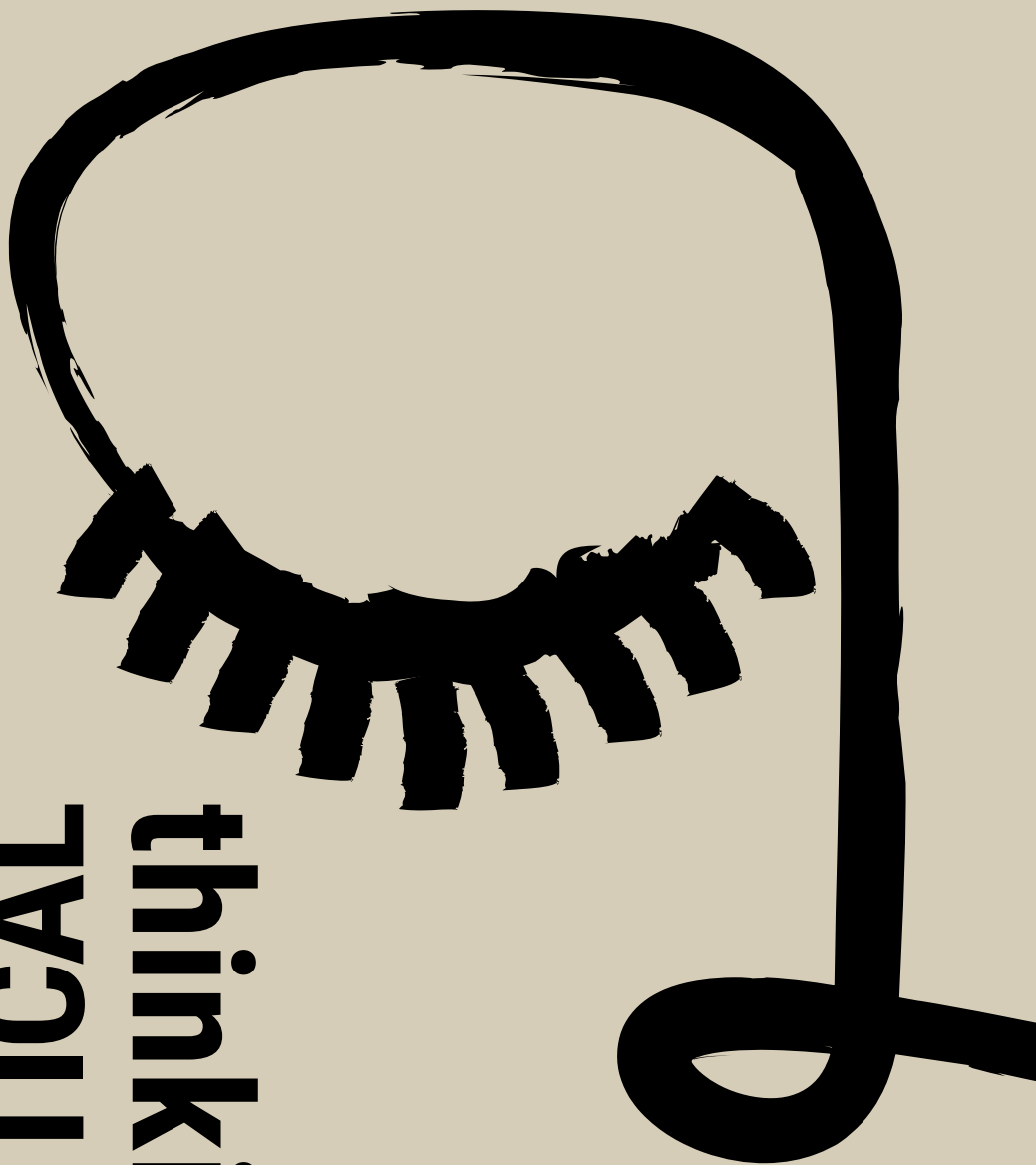
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Iva Buchberger



CRITICAL thinking

Peace, Love &
Rock and Roll

A handbook
for teachers

ISBN: 978-953-361-089-4



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Rock and Roll

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Terms used in this handbook, which have gender-specific meanings are used neutrally, are inclusive, and apply equally to all.

CRITICAL THINKING: *PEACE, LOVE & ROCK AND ROLL*

A HANDBOOK FOR TEACHERS

Iva Buchberger

Faculty of Humanities and Social Sciences in Rijeka
Association for the Development of Higher Education “Universitas”

Rijeka, 2023.

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To Roberto

Foreword

Yet I still believe that you need not remain without an answer if you trust to things like those which my eyes now rest upon. If you trust to Nature, to what is simple within Nature, the small things that scarcely anyone sees (...) if you possess love for what is humble and, simply (...) seek to gain the trust of what seems impoverished: then all will become easier for you, more consistent, and more filled for you with reconciliation (...) You are so young, so before all beginning, and I would beg you, dear sir, as best I can to have patience with everything unresolved in your heart and try to love the questions themselves (...)

Rainer Maria Rilke, Letters to a young poet

The prerequisite for the development of teaching for critical thinking competency is the development of critical thinking competence. Simply put, one who tries to teach others to think critically must think critically himself. Therefore, the Handbook in front of you *Critical Thinking: Peace, Love & Rock and Roll* is intended for teachers¹ with the aim of developing their critical thinking competency and teaching for critical thinking competency. Speaking in general, this Handbook is intended for all those who teach – primary and secondary school teachers, higher education teachers, teachers and educators in adult education and civil sector etc. The Handbook can, of course, also be used by those not professionally engaged in teaching but want to develop and enhance their own critical thinking competency both in their personal and professional lives.

Finally, why peace, love & rock and roll? The answer to this question lies in understanding the critical thinking competency and its value component - an individual who has a developed critical thinking competency is directed towards peace and love, as well as other related values (not necessarily rock

¹ In the Handbook, the terms teacher and student are used in a general sense (including different types and levels of education - the teacher is the one who teaches, and the student is the one who is taught and learns. However, it should be emphasized that these are their dominant and not exclusive activities, since teachers also learn and students teach.

and roll though ☺). In this sense, the advantage of this Handbook is also reflected in the fact that the aim was to include the affective dimension of critical thinking and not only the cognitive one.

The Handbook is divided into two parts. The first part of the is aimed at developing, encouraging and strengthening the critical thinking competency as well as adapting the content of critical thinking as a field to teachers. In other words, the content of the field of critical thinking, which primarily refers to logic, has been adapted to teachers in this Handbook in a way that it makes use of informal logic, that is, it aims at applying logic in everyday life with a prominent common-sense approach.

The first part of the Handbook includes the following topics - determination of critical thinking and critical thinking competence; determination of argument and its elements, types and validity of arguments, fallacies in argumentation and topics such as definition and division, explanations, rhetorical questions and enthymemes, normative and descriptive claims, determination of (accurate) information and (reliable) sources of information.

The second part of the Handbook is aimed at developing, encouraging and strengthening the teaching for *critical thinking competency* and represents the answer to the question of how to teach in a way that students develop their critical thinking competency. It includes the following topics - determination of teaching for critical thinking and teaching for critical thinking competency; the dimensions of teaching for critical thinking, which include learning outcomes oriented towards the development of critical thinking, a critical approach to lesson content, active teaching methods, active assessment methods, critical action and a democratic classroom atmosphere.

The Handbook contains numerous examples and tasks that aim to illustrate critical thinking and its elements. Possible solutions to the tasks can be found at the end of the Handbook. Examples and tasks are an incentive and invitation to further question and research as well as innovate the field of critical thinking, they are certainly not final and only solutions and paths.

The Handbook was created as a result of my ten year long research and professional work in the field of critical thinking, which began with the first project I wrote and led: *I Think Critically! Training students for critical thinking, listening, reading and writing*, organized by the Higher Education

Development Association “Universitas”. In 2012, I authored a handbook on critical listening, reading and writing called *Critical Thinking*, which was published within the framework of the aforementioned project. Parts of that Handbook are woven, logically, into this Handbook as well. Also, some parts of this Handbook have already been published in my earlier papers (which is indicated in the text of the Handbook) or have been published as teaching material in various educational projects, and are rounded off with this manual. In this sense, the Handbook *Critical Thinking: Peace, Love & Rock and Roll - A Handbook for Teachers* is the result of my work and research on critical thinking and teaching for critical thinking.

Finally, and most importantly, I would like to thank my closest colleagues, friends and family. Thank you - Bojana, Ivana, Bruno, Tanja, Jasminka L., Luka, Tamara, Jasminka B., Nevio, Sven, Roberto, thank you from the bottom of my heart.

Iva Buchberger

Rijeka, October 2022.

1.

Critical thinking

1. Critical thinking²

Critical thinking is a phenomenon that has been intensively discussed not only in scientific and professional discourses, but also in everyday, non-scientific and non-professional discourses. The most common topic of discussion about critical thinking relates to questioning and determining its importance both to the individual and to society. It seems that there has been a consensus on the importance of critical thinking, which presupposes that critical thinking should be developed and strengthened. Arguments in favour of the importance of developing critical thinking include (1) the argument of a democratic society, in which the importance of developing critical thinking is justified on the basis that critical thinking contributes to the development of active citizens who reflect, question, evaluate, make informed decisions, and thus meet the demands of a complex democratic society with constant change, increasing availability, and rapid flow of information; (2) the argument of the well-rounded and competent individual, justifying the importance of developing critical thinking by arguing that critical thinking contributes to the integrity of the individual, as it involves the development of positive qualities such as self-esteem, self-confidence, empathy, openness, flexibility, etc.); (3) the argument of good teaching and quality learning, where the importance of developing critical thinking is justified by the fact that critical thinking contributes to a better, deeper, and more complete understanding of learning and teaching content, better monitoring and regulation of the learning and teaching process, and greater motivation for learning and teaching (Buchberger, 2022).

The above arguments for critical thinking actually answer the question of why we need critical thinking. Of course, a discussion about the importance of critical thinking is warranted - What is critical thinking important for and to whom? Should critical thinking be developed and in what contexts? There is also room for discussion about What is critical thinking? and How can critical thinking be developed? In this Handbook I will not discuss the importance

² Parts of the text of the Handbook on critical thinking were previously published in the form of the handbook *Critical thinking* (Buchberger, 2012) as part of the project *I think critically!* The project of training students for critical thinking, listening, reading and writing, organized by The Higher Education Development Association "Universitas".

of critical thinking but will start from the assumption that critical thinking is important (for the reasons more or less mentioned) and that consequently it should be developed, promoted and strengthened, especially in the field of education. Therefore, the first question to open the discussion is: What is critical thinking anyway?

In non-scientific and non-expert discourses, critical thinking is often likened to individually formed opinions. In other words: If someone has an opinion about something and has formed that opinion using their head, they are thinking critically. However, critical thinking is much more complex than the process of forming an individual opinion; it involves many thought processes that precede the process of forming (one's own) opinion. Critical thinking means first of all curiosity, openness and questioning claims. It involves questioning, analysing and evaluating what is claimed and on what basis it is claimed. It involves researching reliable sources of information and extracting relevant and accurate information about the claims. In addition, the claims must be compared to other and/or contrary claims, and entails imagining different situations from different perspectives. The result of this complex process is - having an opinion or taking a stance. It is important to emphasise that taking a stance can take three possible forms: (a) forming one's own opinion; (b) rationally adopting someone else's opinion, someone else's position; or (c) abstaining from an opinion and maintaining scepticism.

Table 1. Schematic of the complex concept of critical thinking

CRITICAL THINKING		
CURIOSITY AND OPENNESS		
ASKING QUESTIONS		
EXTRACTING RELEVANT AND ACCURATE INFORMATION		
QUESTIONING, ANALYSING AND EVALUATING		
CONNECTING AND COMPARING		
IMAGINING		
TAKING A STANCE		
A. ONE'S OWN OPINION	B. OTHER'S OPINION	C. ABSTAINING FROM FORMING AN OPINION

The essence of critical thinking is that the process of taking a stance (of all the above three possible forms) does not take place automatically but takes active and careful consideration. It is completely justified, after active and careful consideration of what is claimed, not to take one's own position, but to either refrain from making a judgement or take the position of another, most often the position of an expert in the field being discussed. Reasons for not taking one's own position on what is being claimed can happen due to excessive complexity of the discussion topic, unavailability of essential information, lack of interest and/or time to deal with the topic, etc. In addition to the above, the complexity of the concept of critical thinking also stems from different values (not only intellectual autonomy) attributed to it, for example clarity, precision, responsibility, self-confidence, humility, curiosity, etc.³

In support of considering critical thinking as much more complex than forming an opinion, it should be said that liking critical thinking to individually formed opinions is not only wrong but can also be dangerous. Indeed, the above-mentioned narrow view of critical thinking provides an incentive for individual opinion formation without an exhaustive research process, gathering relevant information, weighing different opinions, etc., which often leads to the spread of misinformation and even the formation of pseudoscientific theories, fuelling distrust of science. Therefore, a clear definition of critical thinking as a complex concept helps to break the image of the power of a self-sufficient individual who, by forming opinions and attitudes, easily and quickly becomes prone to extremism and radicalism, creating a divided society.

THE MOST SIGNIFICANT THEORISTS OF MODERN CRITICAL THINKING

Critical thinking is discussed scientifically and professionally mainly in the field of philosophy, psychology and pedagogy. It is worthwhile to briefly discuss the most important theorists of modern critical thinking. First, John Dewey (1859-1952), who in his book *How we think?* (1910) discusses the

³ Find more about the concept of critical thinking in the table representing critical thinking as a competence from a pedagogical perspective on pg. 23.

concept of critical thinking. Dewey refers to critical thinking as reflective thinking and defines it as an active, persistent, and thorough process of thinking about beliefs and assumptions that support those beliefs, as well as further conclusions that follow from those beliefs.

In addition, Dewey highlights two elements or sub-processes of critical thinking - (a) the state of doubting and relinquishing beliefs; (b) the research process. Dewey says that without initial doubt and further research and reflection on the accumulated knowledge, we think uncritically. Finally, Dewey adds that the difference between good and bad thinking lies precisely in the process of reflection, that is, in the search for additional evidence for belief, for new information that develops certain theses. Critical thinking involves the aforementioned process, while uncritical thinking involves no reflection and accepts beliefs immediately. Dewey therefore considers critical thinking to be good thinking and uncritical thinking to be bad thinking.

In the pedagogical context, Paulo Freire (1921-1997) also speaks of critical thinking, proposing a critical way of thinking (and acting), but also a critical way of teaching. In his work *Pedagogy of the Oppressed* (1970), he contrasts critical thinking with so-called naïve thinking, which is characterized by adherence to the existing, by statics, and by a lack of questioning. Critical thinking, on the other hand, is understood by Freire as a processual and transformational approach to reality that is not separate from action. Freire emphasizes that true critical thinking leads to action

Robert Ennis (1928) is a contemporary American philosopher and one of the first theorists to develop the concept of critical thinking. His well-known definition of critical thinking as rational, reflective thinking aimed at deciding what to believe or do (1991) also emphasizes the link between critical thinking and action

Matthew Lipman (1922-2010) is one of the most prominent contemporary theorists of critical thinking as an educational concept. He developed a specific educational concept closely related to critical thinking - philosophy for children. In his book *Thinking in Education* (2003), Lipman addresses the reflective model of educational practice and concludes that the focus of the educational process is not on gathering information, but on exploring and asking questions about various topics. He also emphasizes the importance

of understanding the relationships between the information obtained in the research process.

Richard Paul (1937-2014), a contemporary American philosopher, is the founder and director of the Center for Critical Thinking and Moral Critique and The Foundation for Critical Thinking. These non-governmental organizations focus on promoting important changes in education and society through the cultivation and development of critical thinking. Paul and his collaborator Michael Scriven (1987) define critical thinking as an intellectual process of conceptualizing, applying, analysing, synthesizing, and evaluating information with the goal of forming beliefs and ultimately acting on those beliefs. The authors also highlight the universal intellectual values associated with the above processes, namely clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness

Finally, Peter Facione (1944), a contemporary American philosopher, who is best known for leading an important study of critical thinking conducted in 1990 within the American Philosophical Association (APA). The study used a qualitative approach, specifically the so-called Delphi method, and involved 46 experts in the field of critical thinking who participated in theoretical discussions, evaluations, and teaching sessions. The experts reached consensus on the definition of critical thinking as a purposeful, self-regulatory judgment that leads to interpretation, analysis, evaluation, and inference, and includes an explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations on which that judgment is based. Additionally, a consensus was also reached regarding the determination of the core of critical thinking, which, according to the experts in the mentioned research, consists of six cognitive skills - 1. interpretation; 2. analysis; 3. evaluation; 4. inference; 5. explanation; and 6. self-regulation. Sub-skills were added to each cognitive skill (Table 2).

Table 2. *Cognitive skills of critical thinking (Facione, 1990)*

COGNITIVE SKILLS OF CRITICAL THINKING
<p>INTERPRETATION</p> <p><i>Categorization</i></p> <p><i>Decoding significance</i></p> <p><i>Clarifying meaning</i></p>
<p>ANALYSIS</p> <p><i>Examining ideas</i></p> <p><i>Detecting arguments</i></p> <p><i>Analysing arguments</i></p>
<p>EVALUATION</p> <p><i>Judging statements⁴</i></p> <p><i>Judging arguments</i></p>
<p>INFERENCE</p> <p><i>Querying evidence</i></p> <p><i>Conjecturing alternatives</i></p> <p><i>Drawing conclusions</i></p>
<p>EXPLANATION</p> <p><i>Describing results</i></p> <p><i>Justifying procedures</i></p> <p><i>Presenting arguments</i></p>
<p>SELF-REGULATION</p> <p><i>Self-examination</i></p> <p><i>Self-correction</i></p>

This study has certainly completed the definition and thus the understanding of critical thinking. A further understanding of critical thinking is achieved by considering critical thinking as good thinking. Facione (2015) questions whether critical thinking can be said to be the same as good thinking, and

⁴ The term „statement“ is used as what Copi, Cohen and McMahon (2011) explain to be typically asserted by a declarative sentence but not the sentence itself. Another term for statement the authors use is „proposition“ and although they claim a proposition is not an exact synonym of statement, both are used in logic in a similar sense.

concludes that critical thinking is good thinking, but the two concepts are not completely identical, as the concept of good thinking includes creative (innovative) thinking. In this sense, good thinking is seen as a broader concept than critical thinking

This Handbook deals with teaching for critical thinking, so critical thinking should be considered in the context of education. The next chapter, Critical thinking competency therefore aims to define critical thinking from a pedagogical perspective

The following text contains tasks for practicing the competency of critical thinking that support the theoretical elaboration of the different phenomena of critical thinking in this Handbook

Task 1. Justify this point of view: Critical thinking is important.

Critical thinking is important because: _____

Task 2. Justify this point of view: It is not necessary to develop critical thinking.

It is not necessary to develop critical thinking because: _____

2. Critical thinking competency

When talking about critical thinking in education and the question of developing critical thinking, then we should refer to critical thinking as a competence. Therefore, critical thinking in the pedagogical sense is defined as a complex competence that includes a clear set of knowledge, skills and values that are specified in the following table.

Table 3. Critical thinking competency as a set of knowledge, skills and values

CRITICAL THINKING COMPETENCY		
KNOWLEDGE	SKILLS	VALUES
Knowledge about critical thinking	Questioning skills	Clarity
	Evaluative skills	Precision
Knowledge about concepts and judgements	Argumentation skills	Enterprise
	Synthesis and structuring skills	Intellectual courage
Knowledge about discussions	Discussion skills	Consistency
	Critical (active) listening skills	Coherence
Knowledge about arguments	Critical reading skills	Intellectual vigilance
	Critical writing skills	Responsibility
Knowledge about explanation	Critical decision-making skills	Openness to discussion
	The skills of developing a vision and proposing solutions	Confidence
Knowledge about argument validity		Humility
Knowledge about definition and division		Curiosity
	The skills of imagining possible situations	Appreciation of other people's opinion
Knowledge about the rules of natural deduction		Tolerance
		Empathy

... *Continued*

<p>Knowledge about fallacies in argumentation</p> <p>Knowledge about elements of pragmatics</p> <p>Knowledge of criteria for determining accurate information and reliable sources of information</p> <p>Knowledge about different topics that are critically thought about and discussed</p> <p>...</p>	<p>The skill of seeing phenomena from different perspectives</p> <p>...</p>	<p>Assertiveness</p> <p>Non-discrimination</p> <p>Intellectual generosity</p> <p>Equality</p> <p>Peace</p> <p>Freedom</p> <p>Love</p> <p>Intellectual autonomy</p> <p>...</p>
--	---	---

In addition to being a complex competence, critical thinking is also a general, generic, global, transversal, key, core, life and global competence. The following table explains the definition of each of them.

Table 4. Elaboration of the critical thinking competency through different competency determination.

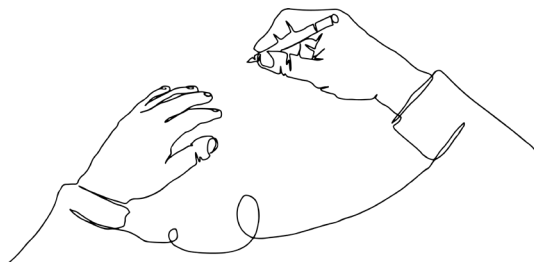
Critical thinking competency	
General competency	Critical thinking competency is a general competency determined by the fact that it is common to all fields and disciplines, that is, it is not content specific.
Generic competency	Critical thinking competency is a generic competence determined by the fact that, as a higher order term, it includes other competencies such as media competency, intercultural competency, sustainable development competency, etc.

... *Continued*

Transversal competency	Critical thinking competency is a transversal competency determined by the fact that it relates to all areas of human activity (economy, science, culture, education ...). The „active element“ in this competency entails transfer, that is, transferring competency from one area to another.
Key competency	Critical thinking competency is a key competency determined by the fact that it is of crucial importance in certain contexts.
Core competency	Critical thinking competency is a core competency determined by the fact that its development provides an individual with a competitive advantage in different contexts.
Life competency	Critical thinking competency is a life competency determined by the fact that it responds effectively to the demands and challenges of everyday life.
Global competency	Critical thinking competency is a global competency determined by the fact that it is necessary to consider different phenomena through the prism of the local-global and multicultural-intercultural.

After determining the concept of critical thinking, we go on to identify and describe its core - the argument.

Space for making notes



3. Argument

Every day we are surrounded by various arguments, mostly incomplete arguments - in the form of conclusive statements without giving reasons or justifications. In other words: In everyday discourse, various conclusions are presented without justifying them. For example, the following statements are often heard in public discourse

Women should have a right to choose.

Working on Sundays should be prohibited.

Abortion should be banned.

A woman is incomplete if she is not a mother.

Mandatory military service should be reinstated.

A monument should be erected to Mohamed Salah.

A woman can be complete even if she is not a mother.

Children should be involved in the decision- making.

Anyone who wants to have a dog as a pet should adopt it.

Make love not war.

Euthanasia should not be allowed.

Migrants should be accepted and integrated into society.

We should strive for interculturality.

Real estate taxes should be introduced.

One should live life according to the principle of 'carpe diem'.

The examples given are not arguments, but conclusory statements which, being incomplete, are not sufficient to be considered examples of argument and the application of critical thinking in the proper sense of the word. Consequently, we must determine what is an argument and what the listed statements lack in order to be considered arguments.

ARGUMENT AND ITS ELEMENTS

An argument is a group of statements (propositions) which include a statement sought to be justified and a statement or statements which seek to justify the concluding statement.⁵ The statement sought to be justified is called a conclusion or conclusive judgement. The statement that seeks to justify the conclusion or conclusive judgement is called a premise.

The given definition of an argument can be considered using the following example:

Example 1. Spending time in nature is desirable for people because it benefits their physical and mental health.

Written argument looks like this:

P: Spending time in nature benefits people's physical and mental health.

C: Spending time in nature is desirable for people.⁶

An argument as a group of statements has one conclusion and one (as in example 1) or more premises as will be shown in the following examples.

Example 2. Sage boiled in milk with honey treats a sore throat in a natural and non-invasive way. It is preferable to be treated in a natural and non-invasive way. It is preferable to treat a sore throat with sage boiled in milk with honey.

⁵ The above definition of argument is offered by Copi, Cohen, and McMahon in their book *Introduction to Logic*, 2011. It should be emphasized that some authors (e.g., Blackburn, 2005) define arguments in a broader sense, ascribing to them the importance of the process of justifying a statement. Accordingly, argument is (a) the process of justifying a statement; (b) the result of justifying the statement in terms of a set of statements - that which is justified and that by which it is justified.

⁶ P stands for premise, C stands for conclusion.

Written argument looks like this:

P1: Sage boiled in milk with honey treats a sore throat in a natural and non-invasive way.

P2: It is preferable to be treated in a natural and non-invasive way.

C: It is preferable to treat a sore throat with sage boiled in milk with honey.

Example 3. Sage is a plant. A person is not a plant. Therefore, a person is not sage.

Written argument looks like this:

P1: Sage is a plant.

P2: A person is not a plant.

C: Therefore, a person is not sage.

What does the following example indicate?

Example 4. It is important to read regularly because reading develops creativity and because reading improves memory.

It can be seen, from the above example, that there are two justifications for the statement *It is important to read regularly*.

Justification 1: Reading develops creativity.

Justification 2: Reading improves memory.

This can be illustrated as follows:

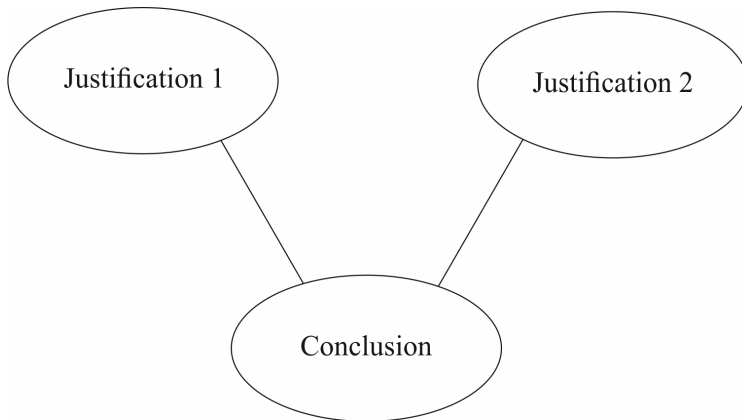


Illustration 1. Argument with two justifications.

In seeking justification for a particular statement, there is no one-size-fits-all solution. The justification for a particular statement can be one statement, several statements that make up certain content, or several statements of different content that present different reasons or justifications. Moreover, if there is more than one justification for a particular statement, it is more convincing and therefore stronger

It should be noted that the number of arguments is determined by the number of conclusions in a given linguistic unit. If a statement is justified by two justifications, but in one linguistic unit, it is one argument, one argument with two justifications, nevertheless, one argument.

Task 3. Determine which of the following examples are arguments.

1. Eat your dinner!
2. If you work hard, you will definitely succeed.
3. Socrates is mortal.
4. Isn't a woman incomplete if she is not a mother?
5. Prisoners who try to escape from prison should not be punished because the basic human instinct is to be free.

Task 4. Think of an argument with two justifications.

CONCEPT AND STATEMENT

Before elaborating further on the argument, it is necessary to (briefly) consider the two fundamental elements of the argument – the concept and the statement. The concept, along with the statement, is a fundamental element of an argument. According to the traditional definition of the concept, it is a thought about the essential characteristics of what we think. For example, the concept of a tree is a thought about the essential characteristics of a tree, or in other words, a thought about the characteristics of a tree that make a tree what it is (Petrović, 1994). According to recent definitions (e.g., Blackburn, 2005), a concept is what we understand by a certain term. The concept is therefore in *one's mind* and should be distinguished from *a word* (a set of sounds in a language to which meaning is attached⁷) or a term (a scientific or expert name for a certain concept⁸), which can be said to be signifiers of the concept⁹. In order to better understand what a concept, a word and a term are, it can be said that the same concept can be expressed by different words and terms. This is further explained in the following table:

⁷ Anić, V. (2000). *Croatian language dictionary*. Zagreb: Novi liber, pg. 1007.

⁸ Ibid., pg. 1190.

⁹ The definition of the concept is not universally accepted and opens numerous debates. The concept is a complex term. According to Petrović (1994), there are several logical theories of the concept, namely: (a) the formalist theory of the concept, according to which the concept is an element of judgment; (b) the psychological theory of the concept, according to which the concept is a general idea - an idea about what is common to a large number of subjects; (c) the nominalist theory of the concept, according to which the concept is a word; (d) the realist theory of the concept, according to which the concept is a reflection of the essential properties of material things. For further discussion of the complex term of concept, the reader is referred to the following literature: Devitt, M.; Sterelny, K. (2002). *Language and reality*. Zagreb: KruZak; Frege, G. (1995). *Grundzuege der Arithmetik*. Zagreb: KruZak.; Quine, W.O. (1999). *Word and object*. Zagreb: KruZak.

Table 5. *A comparison of a concept and a word.*

Concept	Word, term
'Tree'	Tree
<i>the thought</i>	Albero
<i>of a</i>	Stablo
<i>perennial</i>	Baum
<i>plant</i>	Arbre
<i>consisting</i>	Arbol
<i>of a woody</i>	Träd
<i>trunk of</i>	पेड़
<i>a certain</i>	Δέντρο
<i>elevation,</i>	...
<i>which</i>	
<i>branches</i>	
<i>into a</i>	
<i>canopy.</i>	

It is also interesting to point out that for some concepts for which there is a word or a term in a certain language, in another language the term does not exist. So that word is unique to that particular language. A nice illustration of this are the poems of Maja Klarić¹⁰ where in her collection *Four Elements* she writes a poem for a word, a term that exists in the Japanese language, in order to describe that word, since that word, term, does not exist in the Croatian language. Following are the two poems that illustrate the above:

Komorebi

(*a word for the concept of sunlight breaking through the treetops)

a space beyond the Universe,

a tree above the land,

an island below the surface, the sea, You.

¹⁰ All authored texts in the Croatian language have been translated into English language by the translator, only for the purpose of this Handbook. The texts have not been approved by the authors and therefore should not be considered as officially accepted translations of the texts.

*a me that is no longer me,
and us, becoming light
breaking through the treetops
in this boundless empire of time.*

(Klarić, 2020, pg. 82)

Shoganai

(*a word for the concept when there is no help, a fatalistic surrender to a situation we cannot change)

*You can take yourself by the hand
And say, it's fine, nothing can happen,
that can stop you from getting back on your feet.
You can intertwine fingers of the one hand
with the other
and think that it's good when things are intertwined,
when they support each other
when you can count on your other palm,
even if it's to give you a slap
to bring you to your senses,
it will tell you, come to your senses, come to your senses
and open your arms into
an embrace.*

(Klarić, 2020, pg. 87)

A statement (or judgment, proposition) is a meaningful claim that affirms or denies something. In an argument, the conclusion and premises are statements (or judgments, propositions). A statement entails concepts. Unlike concepts, a statement has a truth value. In other words, a statement can be true or false. A concept is not true or false. Furthermore, a statement should be distinguished

from a sentence in the same way that a concept should be distinguished from a word. Therefore, the same statement can be expressed in different sentences. The following table will illustrate the latter:

Table 6. A comparison of a statement and a sentence.

Statement	Sentence
‘Love is in the air.’	Love is in the air. Ljubav je u zraku. L’amore è nell’aria. Liebe ist in der Luft. Tình yêu ở trong không khí. Usemathandweni.

Task 5. Find a concept for which there is a word or term in a certain language, but in another language (e.g. Croatian) there is no word or term for that concept. Describe that concept.

DESCRIPTIVE AND NORMATIVE STATEMENTS

When discussing statements (or judgments, propositions), it should also be said that they can be descriptive (or factual, illustrative) and normative (or evaluative). A descriptive statement is a meaningful assertion about what state of affairs is or is not. Descriptive statements express facts. A normative statement, on the other hand, is a meaningful assertion about how the state of affairs should be (what would be good, desirable, etc.) or how the state of affairs should not be (what would be bad, undesirable, etc.). Normative statements express values. Normative statements can be value-positive and value-negative, as can be seen from the above. To better understand the difference between descriptive and normative statements, the following text (Table 7) compares descriptive and normative statements using examples that relate to the same topic but differ exactly in how things are (descriptive statement) or how they should be (normative statement).

Table 7. Comparison of the descriptive and normative statements

Descriptive statements	Normative statements
Today is a sunny day.	You should feel good when it is a sunny day.
You smiled.	You should smile.
I'm walking to the city centre.	You should walk for at least thirty minutes a day.
Losing weight in obese people improves their heart condition.	Obese people should lose weight.
I drink tea every day.	It is better to drink tea every day than coffee.
This is a book.	You should read books.
Reading is one of the strategies for developing critical thinking.	Critical thinking should be developed.

Task 6. Determine whether the following statements are descriptive or normative.

1. I am alone, I need you.
2. He wrote a book.
3. He has cooked lunch.
4. It is not advisable to chew with your mouth open.
5. Matija is a good person.
6. The artist must be healthy.
7. We are healthy.

What can be said about the following example:

Example 5. I quarrelled with my wife, and I should not have done that.

This sentence asserts two things - 1. it asserts that I quarrelled with my wife and 2. that I should not have quarrelled with my wife. So this sentence has two components - a factual one that asserts that I quarrelled with my wife,

and a value-based one that asserts that I should not have quarrelled with my wife.¹¹

In critical thinking, it is important to elaborate and understand the distinction between descriptive and normative statements, especially in the construction of arguments, because there is a rule: if the conclusion is normative, then at least one of the premises must be normative, or, as Hume claimed¹² it cannot be asserted that something should be the basis of what is. For example, the following argument is invalid because the premise of the argument is descriptive, and the conclusion is normative:

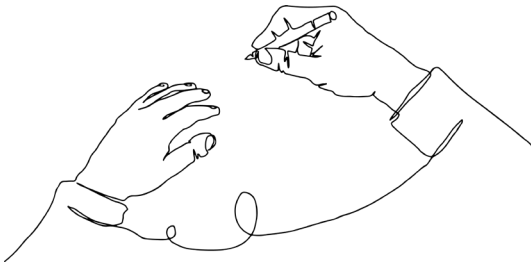
It is natural for a man to have children. - descriptive statement

So a man should have children. - a normative statement

At least one normative statement should be added to the above argument (e.g. *What is natural should be achieved*) to consider its validity.

¹¹ There is a nice discussion in philosophy about facts and values, their existence, their distinction, etc., which is presented by Berčić (2012) in a concise and interesting way. For those who want to know more.

¹² David Hume (1711-1776), a famous Scottish philosopher, explains the difference between descriptive and normative statements, arguing that one cannot assert that something ought to be because of what it is. This principle is known as Hume's law (or Hume's bifurcation). George Edward Moore (1873-1958), an English philosopher, in his book *Principia Ethica* (1903), criticizes utilitarianism, according to which the good is pleasure (or utility, happiness, etc.). According to Moore, if it is superfluous to say X is X, then it is superfluous to ask whether X really is X, but if we say that the good is pleasure (or utility, happiness, etc.), then it is reasonable to ask whether the good really is pleasure (or utility, happiness, etc.). In this sense, it is clear that a factual category (such as pleasure, utility, happiness) cannot be identified with a normative category (such as good). According to Moore (2009), good cannot be identified with any factual (or natural) property - to do so would be a naturalistic error.

Space for making notes

DEFINITION AND DIVISION

Definition and division are methods of cognition that form and break down concepts. The starting point for forming valid conclusions lies precisely in well-formed and defined (definition) and well-explained and divided (division) concepts.

Definition is not only a method of cognition by which concepts are formed, but also the result of this process. Thus, a definition is a statement that unambiguously determines the content of a concept, i.e., it establishes a set of essential characteristics of a concept. A definition consists of two elements: *Definiendum* and *Definiens*. A *definiendum* is a term that is defined. *Definiens* is a term that is used to define. *Definiens* consists of the closest (higher) order (*genus proximus*) and the species difference (*differentia specifica*).

Example of a definition: *A freshman is a student in his first year of study.*

In the given definition example, the term “freshman” is the *definiendum* and “first year of study” is the *definiens*. The term “student” is a *genus proximus*, and “first year of study” is a *differentia specifica*.

If the term ‘freshman’ were defined as ‘an individual who is studying’, that definition would not be valid since it is too broad. The above definition would include all students.

For a definition to be valid, it must follow certain rules. The definition must be 1. adequate; 2. precise; 3. affirmative; 4. clear; and 5. non-circular.

- An adequate definition is a definition where the *definiens* has the same scope as the *definiendum*. In other words, the definition is neither too narrow nor too broad.
- A precise definition is a definition that contains only the essential features of the term. In other words, the definition is not too abundant.
- An affirmative definition is a definition that determines the essential characteristics that the term contains, and not the characteristics that it does not contain.

- A clear definition is a definition where the terms that make up the definiens are clearer than the terms that make up the definiendum.
- A non-circular definition is a definition in which a term is not defined by the same term.

Task 7. Determine the definitions of the following terms: ‘parallelogram’; ‘dog’ and ‘eight’.

DIVISION

Division is not only a method of cognition that breaks down concepts and determines their scope, but also the result of these processes. Thus, division is a set of lower terms of the higher term that is broken down. In addition to the set of lower terms, i.e., the members of the division (*membra divisionis*) and the higher term that is being divided (*totum divisionis*), division also includes the principle according to which the division is carried out (*principium divisionis*).

An example of the division of the concept of critical thinking competence.

CRITICAL THINKING COMPETENCE		
KNOWLEDGE ABOUT CRITICAL THINKING	CRITICAL THINKING SKILLS	CRITICAL THINKING VALUES

The division must be adequate, unique and gradual. The adequacy of the division is manifested in the fact that the division is neither too narrow nor too wide, that is, where the scope of the entire division is the sum of the scope of the members of the division. The uniqueness of the division is manifested in the fact that the division is made according to one principle. Finally, the gradualness of the division is manifested in the fact that the division includes its closest species.

Task 8. Determine the division of the term ‘good opinion’

PREMISE AND CONCLUSION INDICATORS

As stated before, to have an argument is to have a judgment (statement) and a justification (reasons) for that judgment (statement). A justified statement is a conclusion, and reasons are premises. The question is how to distinguish an argument and its elements - premise/s and conclusion - in a certain text. The *premise indicators* serve as an aid in identifying the premises in a set of statements, while the *conclusion indicators* serve as an aid in identifying the conclusions. The words that announce the premises or the conclusion are words that are used in everyday communication and make up the everyday language of reasoning.

Premise indicators are words such as:

because ... , seeing as ... , since ... , given that ... , as indicated by ... , for ... , assuming that ... , may be inferred from ... , the reason is that ... , first ... , second ... , on account of the fact that...

Conclusion indicators are words such as:

therefore ... , it follows that ... , accordingly ... , which implies that ... , which proves that ... , we may infer ... , which entails that ... , as a result ... , in conclusion ...

One cannot exclusively and only on the basis of a specific word (premise indicator or conclusion indicator) conclude that we are talking about a premise or a conclusion. Namely, the indicators represent an *indication* of a possible argument that requires further consideration. There may be examples in which (a) for a certain set of statements containing the so-called premise indicators or conclusion indicators cannot be said to be an argument at all¹³, or (b) a certain set of statements is an argument but does not contain premise indicators and/or conclusion indicators. If reasoning (or discussion or presentation of arguments) cannot be discerned in a particular text without analysis, there

¹³ For a further explanation, see the following text, especially in the subsection Argument or explanation?

are methods to help clarify such reasoning. One of such methods is the introduction of premise indicators and conclusion indicators.¹⁴

The use of the mentioned method is illustrated in the following text:

A primitive man, a provincial, a hater by vocation, a patriotic Serb-hater, generally addicted to pop culture fashion and war sentiments, will do just fine without Russia. Little that concerns him comes from Russia. If something comes from Russia, it does not concern him. However, the literate ones, let alone readers and good speakers of their mother tongue, cannot do without Russians and Russia. Depriving yourself of Russia, for whatever reason and with whichever goals, would mean depriving yourself of your own culture and literacy. (...) Once upon a time, when anti-communism was something good and positive, those who wanted to say they were not communists boasted about it. Later, the ideological framework changed, but this proclaimed ignoring of Russia and the Russians had a libertarian and democratic proclamation. I would feel sympathy for the man every time - as if he had just told me that he had died! - but then I would think that he is lying and that he secretly reads the Russians after all. Not reading the Russians is worse than not reading at all. Believing that this is a way to stand in solidarity with Ukraine and Ukrainians, or with any other people or group of people who are victims of the Russian tyranny, is equal to believing that we will stand in solidarity with Ukrainians, or with anyone else, by returning to the stage of savagery (Jergović, 2022).

The mentioned text does not contain premise or conclusion indicators, therefore, for the purpose of better understanding the text, the method of introducing premise and conclusion indicators can be used. The procedure includes the following steps:

¹⁴ Introducing premise and conclusion indicators is a method of clarifying unclear reasoning similar to the ‘therefore’ test proposed by Alec Fisher in his book *Critical Thinking: An Introduction* (2001).

1. Read the text with comprehension.
2. Interpret and paraphrase the text by introducing premise and conclusion indicators following the sense of the text and natural reasoning. Use auxiliary questions:
 - *What is the discussion question? What does the author conclude?* The answer to the discussion question (or the author's conclusion) is the conclusion of the argument. Before a sentence that is considered to indicate the author's conclusion, add words such as *hence, therefore, I conclude that...*
 - *How does the author try to prove what he concludes? What are the reasons for his conclusion? Why x (author's conclusion)?* Before a sentence that is considered to indicate the reasons for the author's conclusion, add words such as *because, since...*
3. Identify the conclusion (what is claimed) and the premise/s (reasons, justification).
4. Construct an argument - determine the premises and the conclusion. When constructing the argument, you do not have to use literal sentence structures from the text - it is important to interpret, explain and summarize the text.

Task 9. Find an argument that does not contain premise and conclusion indicators and identify the elements of the found argument using the method of introducing premise and conclusion indicators.

ENTHYMEME

There are arguments in which one or more premises are not explicitly stated or the conclusion is not explicitly formulated. This type of argument is called an enthymeme. Consider the following examples:

Example 1. I am against euthanasia because I do not accept suicide.

Example 2. What is good never harms a person. Honesty sometimes harms a person.

Example 3. Only hugs will save us because only the most beautiful touches save.

In example 1, it is clear that the conclusion of the argument is *I am against euthanasia*, and the premise (as indicated by the word because) is that *I do not accept suicide*. What is also noticeable is that the given example is an enthymeme, since it is an argument that contains an implicit premise - *Euthanasia is murder*. Furthermore, example 2 is also an enthymeme since the conclusion of the argument is implicit, i.e. not explicitly formulated. The conclusion reads: *Honesty is not good*, while the statements *What is good, never harms a person.* and *Honesty sometimes harms a person.* are premises of the argument. Finally, example 3 tries to prove the statement that only hugs will save us by explicitly stating one reason - *only the most beautiful touches save*, while the second reason (that is, the premise) is not explicitly stated - *A hug is the most beautiful touch*. Therefore, example 3 is also an enthymeme.

Task 10. Create an example of an enthymeme.

RHETORICAL QUESTIONS

Sometimes arguments are presented in the form of questions, although technically, of course, they are not arguments because they do not make explicit statements. Arguments presented in the form of questions are what are known as rhetorical questions. Therefore, in some cases, by asking a question, something is indirectly asserted or denied, and when analysing and critically examining such a text, it is important to read what the author has not explicitly said, what he assumes and what he thinks, and what can be read from the text itself. Let us analyse the following example:

How can you buy or sell the sky, the warmth of the land? The idea is strange to us. If we do not own the freshness of the air and the sparkle of the water, how can you buy them? Every part of this earth is sacred to my people. Every shining pine needle, every sandy shore, every mist in the dark woods, every clearing, and every humming insect is holy in the memory and experience of my people. The sap which courses through the trees carries the memories of the red man. (Seattle, 1854 according to Hajdarović, 2011).

After reading the entire text with comprehension, we should ask what *xy*, in this case the Indian chief Seattle, states and how he justifies it. Indian Chief Seattle in a letter addressed to the American President George Washington, who wanted to buy his land, claims: You cannot buy or sell the freshness of the air and the sparkle of the water, or the sky, the warmth of the earth. The question is, how does Seattle justify that statement? The formalization of his argument looks like this:

P1: If we do not possess the freshness of the air and the sparkle of the water, then you can't buy it.

P2: We do not possess the freshness of the air and the sparkle of the water.

C: You cannot buy or sell the freshness of the air and the sparkle of the water, or the sky, the warmth of the earth.

P1 i P2 are premises – justification, C is conclusion– the statement that is justified. Although Seattle did not explicitly say these words, we can see from the text that the statement: *How can you buy or sell the sky, the warmth of the earth? That idea is foreign to us.* means: *You can't buy or sell the sky, the warmth of the earth.*

Rhetorical questions are part of everyday communication. Questions like: *Isn't it always cold in this apartment?* (which contains the statement *It's always cold in this apartment*), *Is it responsible to drink and drive?* (which contains the statement *It is not responsible to drink and drive*), *Isn't my husband adorable?* (which contains the statement *My husband is adorable*), etc. are often used in everyday communication. Consequently, it is necessary to take into account what is not explicitly stated in a certain text, what is implied or what is implied in the statements made.

Task 11. Give an example of a rhetorical question.

ARGUMENT AND EXPLANATION

When we claim that David walked home yesterday because he drank too much beer to drive, we are making something similar to an argument. We are giving

an explanation. Explaining or giving an explanation is often very similar to the process of presenting an argument. An explanation and an argument have the same structure - both an explanation and an argument can be defined as a set of statements consisting of (a) one or more statements that represent reasons for (b) a statement for which reasons are to be found. In the example above, the statement that David drank too much beer to drive is a reason for the statement that David walked home yesterday. So the question is how to distinguish between an argument and an explanation.

To distinguish between an argument and an explanation, we must consider the context in which the statements are made. Namely, an argument involves the context of persuasion, whereas an explanation does not. In other words, what distinguishes an argument from an explanation is its goal. To make an explanation means to explain why x, while the truth of x is not in question and is not problematic. Making an argument, on the other hand, means proving x (the conclusion, what is claimed), giving reasons for x, justifying x, and the truth about x is questioned and opens a discussion, and entails convincing the interlocutor, the reader, of what is claimed.

If we say that David walked home yesterday, the truth of this statement is not questioned, we are just trying to explain that David drank too much beer to drive a car, which is why he walked home.

Table 8. Comparison of an argument and an explanation

Argument	Explanation
The structure is <i>X because Y</i> .	The structure is <i>X because Y</i> .
It can contain premise and conclusion indicators.	It can contain premise and conclusion indicators.
The truth of what is stated is being questioned.	The truth of what is stated is <i>not</i> being questioned.
The statement opens a discussion.	The statement opens a discussion.
The interlocutor or reader is being convinced of x.	The interlocutor or reader is x being explained.

Task 12. Determine whether the given examples are arguments or explanations.

1. *I got the idea from somewhere that the only meaningful thing is to defy meaninglessness by doing good. Old, good, pathetic Good. In defiance of the God who allows this, or, in defiance of the God who does not exist. Either way. You should do good to the point of exhaustion; you should terrify the universe with goodness as we are terrified by the amount of evil in the world. You should do good up to and beyond the point of stupidity. Even if there is no reason, you should still do good. You should intentionally warm someone's soul every day. You should confuse the universe. You should do good even when good things don't happen in return. You should, despite everything. You should, because that's the only thing and because nothing makes sense. And because it's the only way to attack meaninglessness, with that good. You should do good even when you think that doing good makes no sense. Only the meaningless good smells of some sense to me. Perfect, pure good, without any sense (Đuderija, 2016).*

2. *Everything will be stolen either way // that belonged to us, we should unconditionally // surrender to our age (Dedić, 1993, pg. 32).*

3. *I believe that long-lasting marriage is not in accordance with the human nature. I'm glad Rahma realized that. I guess that's what it was about. Men accept long-lasting marriages because they stop believing in youth (Vilas, 2021, pg. 123).*

4. *Finally, gentlemen: it is best to do nothing! Long live the underworld! I said, admittedly, that I envy the normal man to the extreme; but on such occasions as I see him, I will not be him. (...) I'm lying, because I myself know, like two times two, that the underground is by no means more beautiful than something else (...) To hell with the underground! (Dostojevski, 1975, pg. 360).*

5. *I want love but it's not there. So it's all over. (Tolstoj, 2004, pg. 298).*

6. *(...) it was not even possible to pass the time with Pascal; (...) So I contented myself with observing the landscape (Bernhard, 2005, pg. 66).*

7. *We must learn to reawaken (...) by an infinite expectation of the dawn, which does not forsake us even in our soundest sleep. (...) to elevate his life by a conscious endeavour (...) to carve and paint the very atmosphere and medium through which we look (...) I went to the woods because I wished to live deliberately* (Thoreau, 2006, pg. 122).

8. *Waking up from his dreams, destroyed, broken, (...) he quickly lit the candles because he thought that this way (...) he wouldn't hear as much (...) muffled and persistent beating of the arteries under the skin of his neck* (Huysmans, 2005, pg. 159).

9. *It'd be much better for the world to be governed by the women in it you wouldn't see women going and killing one another and slaughtering when do you ever see women rolling around drunk like they do or gambling every penny they have and losing it on horses yes because a woman whatever she does she knows where to stop* (Joyce, 1991, pg. 756).

10. *now he runs around like crazy at night neglecting his books and studies and doesn't live at home because they must be fighting all the time* (Joyce, 1991, pg. 756-757).

11. *From that day on, she wore her black and gray dresses again. To Jacques, she was beautiful in that too, perhaps even more beautiful, because she became even more distant and even more absent, forever retreating into poverty, loneliness and old age to come* (Camus, 1996, pg. 102).

12. *His life was the miserable life of an abandoned child and because of that it had to be the life of a sinner, (...) That is why Pirulito, despite all the beauty of the day, looks at the sky with eyes wide with fear and begs for forgiveness from such a good (but also such a just...) god, for his sins and the sins of the 'Sandbank Captain'. Because it's not their fault. Life is to blame...* (Amado, 1959, pg. 98).

13. *I would like to crawl into a hole, into a quince. Because of the smell. And because I would be at peace there...* (Vian, 2004, pg. 132).

14. *I don't like being with grown-up people. I've known that a long time. I don't like it because I don't know how to get on with them.* (Dostojevski, pg. 86).

15. *If he needs a million acres to make him feel rich, seems to me he needs it 'cause he feels awful poor inside hisself, and if he's poor in hisself, there ain't no million acres gonna make him feel rich (...)* (Steinbeck, 2003, pg. 239).

16.

*I am strongest when I lean on
my mother's, my mum's, my mommy's, my mutti's belly
on my ancestral homeland, my ancestral ocean*

*mum rarely talks about the past,
about the world I assemble like puzzles –
immigrants, poverty, orphan, loneliness, divorce, war*

*she bears her name from a language she no longer remembers,
from the land that birthed her and took away her parents
I imagine her as the loneliest child
among the creases of Kupa*

maybe that's why she knew how to hug so fiercely (...)
(Čekolj, 2022, pg. 24).

17.

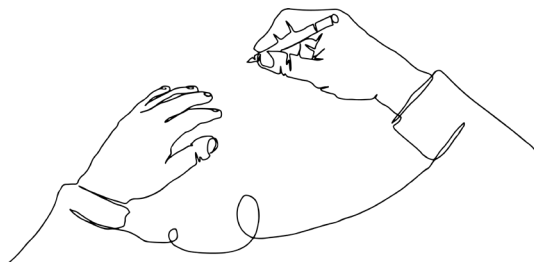
*Take care, take care of your face
That's everything I have from you
The new suite looks good on you
But I don't like it, because it covers your body.
(...) (Stublić, 1981).*

18. *Everyone was smiling, perhaps because they were drinking their third beer in a row, or simply because it was a beautiful day, and it was spring, the month of May, calling for cheer from everywhere - even from the tops of blossoming trees (...)* (Gromača, 2022, pg. 6.)

19. *Flowers have something to do with the dead. That is why it is necessary that the cemetery be a garden. Every flower has some relation to death, but above all - the picked flower, the bouquet and the wreath. How special, right? Bouquets are presented to brides and to the dead. Who actually dies at a wedding and why is death like a wedding? (...) meant only for people who know that death is not destruction* (Hamvas, 1999, pg. 45).

20. *And now the continuation of the walk. For it has been divinely beautiful and good since ancient times simply to walk. The assumption, of course, is that shoes and boots are in order* (Walser, 2022, pg. 23).

Space for making notes



TYPES OF ARGUMENTS

There are two types of arguments – a deductive argument and an inductive argument. A deductive argument is an argument whose goal is for the conclusion to *necessarily* follow from the premises. An inductive argument is an argument whose goal is for the conclusion to follow from the premises with a certain *probability*.¹⁵ This is illustrated with the following examples.

Deductive argument

Example 1. All humans are mammals. Henry is human. So, Henry is a mammal.

Example 2. If you listen to music and keep your eyes closed, you rest. You're listening to music and keeping your eyes closed. So, you're resting.

Example 3. Since chips calms me down, and I need to eat what calms me down, I need to eat chips.

Inductive argument

Example 4. Mia, Ana and Maša love beets. Mia, Ana and Maša are children. So, all children love beets.¹⁶

Example 5. Most men like football. Josip is a man. So, Josip likes football.

Example 6. Juliet made lunch on Monday. Juliet made lunch on Tuesday. Juliet made lunch on Wednesday. Juliet made lunch on Thursday. Juliet made lunch on Friday. Juliet made lunch on Saturday. So, Juliet will make lunch on Sunday.

¹⁵ It should be noted that a different definition of deductive or inductive argument is often given in the literature (see, e.g., Petrović, 1965). However, it is incorrect to define a deductive argument as one in which the conclusion leads from the general to the particular, and an inductive argument as one in which the conclusion leads from the particular to the general. The reason for this, for example, is that in deductive argumentation, inference is from the “particular to the general” according to the rules of existential and universal generalization. See more about these rules in: Copi, I. M., Cohen, C. (2008). *Introduction to Logic*. New Jersey: Prentice Hall; Cauman, L. S. (2004). *Introduction to first-order logic*. Zagreb: Jesenski and Turk.

¹⁶ Kovač (2009) calls this type of inductive argument a generalizing inductive conclusion.

Example 7. A watch and an eye have the property of sophistication and adaptability to the function they perform. The watch has a creator. So, the eye has a creator - God.¹⁷

In example 1, from the judgment that all humans are mammals and that Henry is a human, we necessarily and with certainty conclude that Henry is a mammal. In that case, if it is true that all humans are mammals and that Henry is a human, then it must also be true that Henry is a mammal. In example 4 from the judgments that Mia, Ana and Maša like beets and that they are children, we cannot necessarily conclude with certainty that all children like beets, but only with a certain probability. In that case, if it is true that Mia, Ana and Maša like beets and that they are children, then it is not *necessarily* or *surely* true that all children like beets, but it is *likely* to a certain degree that all children like beets.

Task 13. Determine which of the following arguments are deductive and which are inductive.

1. I woke up on Monday, I woke up on Tuesday, I woke up on Wednesday and on Thursday. Therefore, I will also wake up on Friday.
2. All humans are mortal, I am a human. Therefore, I am mortal.

ARGUMENT VALIDITY

In the process of constructing arguments, in the process of inference, the point is that the arguments are valid, that is, that the correct conclusion is drawn. At the same time, the notion of validity is associated with deductive arguments, that is, arguments whose goal is that the conclusion necessarily follows from the premises. Therefore, a deductive argument is either valid or invalid. The notion of validity does not apply to inductive arguments. Inductive arguments can be strong or weak. A strong inductive argument is one in which the conclusion is more likely to follow from the premises. A weak inductive

¹⁷ This type of inductive argument is an argument by analogy.

argument is one in which the conclusion is less likely to follow from the premises. An inductive argument can be strengthened by adding premises, whereas a deductive argument cannot. For example, consider the following inductive argument:

Example 1: Marko, a 5th-grade pupil at the Švica primary school, loves mathematics. Julia, a 5th grade pupil at the Švica primary school loves mathematics. Therefore, all the 5th grade pupils at the Švica primary school love mathematics.

The above inductive argument can be strengthened by adding premises that refer to other 5th-grade pupils at the Švica primary school. Thus, an example of a strengthened inductive argument would read:

Example 2: Marko, a 5th-grade pupil at the Švica primary school, loves mathematics. Julia, a 5th grade pupil at the Švica primary school loves mathematics. Ivan, a 5th grade pupil at the Švica primary school loves mathematics. Mira, a 5th grade pupil at the Švica primary school loves mathematics. Therefore, all the 5th grade pupils at the Švica primary school love mathematics.

A valid argument is any (deductive) argument for which the following holds: if all premises are true, the conclusion must also be true. It is not necessary that the premises and the conclusion are de facto true for a valid argument, but we work *under the assumption* that if the premises are true the conclusion must also necessarily be true.

Validity condition: if all the premises are true then the conclusion must also be true.

Therefore, we can have an example of a valid argument whereby the premises and the conclusion are false or that the premises are false, but the conclusion is true. The truth of the premises, therefore, does not affect the validity of the argument. For a valid argument, if we assume that the premises are true, the conclusion must also be true.

Table 9. Illustration of possible valid argument in relation to the truth of the premise/s and the conclusion

	True conclusion	False conclusion
True premise (true premises)	A possible valid argument Example: All lions are mammals. All mammals are animals. So, all lions are animals.	A valid argument not possible
False premise (false premises)	A possible valid argument Example: All carrots are trees. All pines are carrots. So, all pines are trees.	A possible valid argument Example: All potatoes are tigers. All tigers are books. So, all potatoes are books.

In addition to the concept of validity, there is another important concept that should be attributed to deductive argument - soundness. A sound argument is any valid argument in which all premises are true. The concept of a valid and sound argument is important in the field of critical thinking as we seek to develop valid and sound arguments to defend a particular point of view or justify a particular statement. In other words: When we defend a particular point of view, we try to draw the right conclusions by basing our conclusion on valid arguments. Furthermore, we strive to support our statements with sound arguments.

A sound argument is any valid argument for which all premises are true.

Therefore, the validity of the argument is a necessary but not a sufficient condition for the stability of the position being advocated. When building a certain position, in addition to striving for a valid conclusion, the condition of truthfulness should also be met.

The conditions for the stability of the position being advocated:

1. Correctness of inference – inference based on valid deductive (and/or strong inductive) arguments
2. Truthfulness – inference based on sound deductive (and/or convincing inductive) arguments

If the stated conditions of stability of a particular position you hold are not met, the position can be refuted or disproved.

Task 14. Determine whether the given argument is sound: all birds are animals because all birds are butterflies and because all butterflies are animals.

COUNTEREXAMPLE METHOD

This handbook presents using a common-sense method for determining the validity of arguments - the method of searching for counterexamples. The method consists of the following:

If no counterexample to the argument can be found, then it can be concluded that the argument is valid. If a counterexample to the argument can be found, then it can be concluded that the argument is not valid.

A counterexample refers to an example, i.e., a particular possible situation in which the premises are true and the conclusion is false. If one finds an example in which the premises are true and the conclusion is false, the validity condition (if all premises are true and the conclusion must be true) is not satisfied, so the argument must be said not to be valid. Epstein and Kernberg (2010) say that good reasoning requires the use of imagination. Thus, to determine the validity of arguments, one should imagine possible situations.

Determining the validity of an argument:

1. A counterexample can be imagined. Therefore, the argument is valid. In other words, a situation where all premises are true and the conclusion is false is not possible.
2. A counterexample cannot be imagined. Therefore, the argument is not valid. In other words, a situation is possible where all premises are true and the conclusion is false.

Let's look at the following example:

Example 1. Tom does not play the guitar. Therefore, Tom is not a musician.

As mentioned earlier, imagination is used to determine the validity of an argument - one imagines possible situations. If the argument is valid, then a situation in which the premise is true and the conclusion is false is not possible. Can one imagine a situation in which the premise is true and the conclusion is false? Assuming that the premise *Tom does not play guitar* is true, the conclusion is not necessarily true because there can be a possible situation - a counterexample is given - in which *Tom does not play guitar* and *Tom is a musician* (so the conclusion *Tom is not a musician* is false), because Tom is a trumpet player. From all this it follows that the argument from example 1 is not valid.

A distinction must be made between the concept of validity and the concept of truth. Validity refers to the correctness of the argument. Therefore, in determining the validity of arguments, the truth of the premises is not examined, and it is not on the basis of the truth of the premises alone that it is concluded whether the argument is valid or not. The above can be illustrated by the following example:

Example 2. All chairs are rivers. All rivers cry. Therefore, all chairs cry.

The above argument is valid, that is, it is an example of correct reasoning, for if it is assumed that all chairs are rivers and that all rivers cry, then the conclusion is correct and it necessarily follows that all chairs cry, as was assumed. That is, there is no possible situation in which all chairs would be rivers and all rivers would cry without all chairs crying. To determine the

validity of arguments, one should distance oneself from what corresponds to the real world and focus on imagining possible, sometimes absurd, situations. The above argument is valid, but since it contains false claims, it is not sound. It can also be said that it is not even useful, but serves as a thought experiment or exercise.

Task 15. Think of an argument which is valid but not sound.

FALLACIES IN ARGUMENTATION

As mentioned earlier, inference is about inferring correctly. It is also possible to infer incorrectly. Sometimes wrong inferences are deliberately made - usually when 'real arguments' are lacking, in a strictly formal sense, but also in an informal sense. Later in the text, the most common fallacies in argumentation are listed, with examples to better explain them. It is, of course, important to point out that the theory of argumentation and the topic of fallacies is much more extensive and complex than what is offered in the rest of the text, but to go into that discussion is beyond the purpose of this handbook. Therefore, the following short text on fallacies in argumentation is more about illustrations, provocations, and a call for further research.¹⁸

1. An Appeal to Ignorance (*Argumentum ad ignorantiam*): a statement whose falsity is not proven is considered true. In other words: If it is not known that something is not, it is inferred that it is, and vice versa, if it is not known that something is, it is inferred that it is not.

Example 1. There is no evidence that life after death exists. Therefore, life after death does not exist.

¹⁸ In the Croatian research area, Kišiček (2010) offers an interesting paper on fallacies in argumentation, in which he provides an overview of the most important papers dealing with fallacies in argumentation and discusses the various classifications of these fallacies.

2. An Appeal to Authority (Ad Verecundiam): we appeal to authority in one area while talking about another. The appeal to authority is often used in advertising.

Example 2. The singer Maja Šuput advises expectant mothers to undergo a non-invasive prenatal test for the early detection of fetal chromosomal disorders.

3. Ad Hominem fallacy (*Argumentum ad hominem*): one does not attack the truth of a statement, but the person stating it.

Example 3. As a psychologist, Alena claims that in a partner relationship it is important to listen to each other, understand each other, invest in the relationship and make compromises and allocations so that both partners are as satisfied as possible. She says that good communication is extremely important because it facilitates conflict resolution, but what does she know if she has never been in a relationship.

4. The bandwagon fallacy (*Argumentum ad populum*): (a) instead of rational arguments, means are used to arouse enthusiasm, hatred, ... (b) we assert the truth of a judgment because most people believe that judgment to be true.

Example 4a. Every Croat who is a true Croat and who cares about our beautiful and unique Croatia will never leave Croatia and live in another country. Therefore, you too should not leave Croatia and live in another country.

Example 4b. Most people think it's okay to express their opinion on social media without doing any research on the topic first. So, it's okay to express your opinion on social media without researching the topic first.

5. Appeal to pity (*Argumentum ad misericordiam*) the reason given for the statement is that which might evoke sympathy, pity, and similar feelings in the other person.

Example 5. Professor, you shouldn't question me today because I was sick a week ago.

Task 16. Find and write down a logical fallacy that someone has used in a public space.

4. Information and sources of information

An extremely important component of critical thinking is the process of searching, researching, and evaluating information and information sources. Information and information sources can be called objects of critical thinking because the process of critical thinking is performed on them.

It is important to emphasize that the process of searching, researching and evaluating information and information sources is the point where one can observe the interfering relationship between the competence of critical thinking and media literacy, which is also mentioned as one of the key competences of the 21st century. It is interesting to define media literacy primarily as media education, but also as the skills of using media technology as defined in the multimedia handbook for preschool and early school age children: Media literacy for the young children by Čakmazović (2021). Media literacy is also defined as a process of questioning media content, not only the literal content, but also the signs and messages that this content conveys and presents. This is precisely the importance of the critical thinking competency that is necessary for interpreting, understanding, and evaluating media content in achieving media literacy. Nevertheless, the following information about accurate information and reliable sources of information is crucial for both developing and strengthening the competence of critical thinking and for developing and strengthening media literacy.

ACCURATE INFORMATION

When speaking, discussing, reading, writing about the world, about the way things are, one should make sure that the information on the basis of which the statements, proofs, confirmations, records, justifications are formed is correct, that is, one should make sure that the information expressed corresponds to the state of affairs. Thus, correct information is information that corresponds to the state of affairs. Incorrect information is information that does not correspond to the state of affairs. A special form of false information is the so-called disinformation,

which not only does not correspond to the state of affairs but is also the result of deliberately bringing about false conclusions about the world, it is therefore the result of manipulation and deception.

It is interesting to elaborate on the phenomenon of information disorder (Wardle and Derakhshan, 2017). The phenomenon of information disorder includes - 1. false information; 2. misinformation; and 3. malicious information. False information and misinformation are not based on facts, but unlike false information, which is not intentionally created, misinformation was created with the intent and purpose to manipulate and harm a person, social group, organization, or institution. Finally, malicious information is also created with the intent and purpose to cause harm but is based on facts. To better understand the difference between the above information, see the table below for examples.

Table 10. Examples of different types of information.

FACT	Five houses collapsed in the earthquake.
ACCURATE INFORMATION	Five houses collapsed in the earthquake.
FALSE INFORMATION	Ten houses collapsed in the earthquake.
MISINFORMATION	Ten houses collapsed in the earthquake and new devastating earthquakes are expected soon.
MALICIOUS INFORMATION	Five houses collapsed in the earthquake and new devastating earthquakes are expected soon.

Task 17. Give an example of malicious information.

In the context of critical thinking and the process of assessing information, it is important to determine, as a first step, whether the information is accurate or inaccurate, and then to find out whether there is an intention to manipulate and cause harm. To achieve this, several criteria must be considered, which are highlighted in the following table. In addition to the information assessment criteria, auxiliary questions are also listed to guide the assessment process.

Table 11. Information assessment criteria with auxiliary questions.

INFORMATION ASSESSMENT CRITERIA	AUXILIARY QUESTIONS
The author of the information	Who is the author of the information? Is that person an expert in the area he is providing information on? What topics does he talk and write about?
Completeness of the information	What is asserted in the entire statement, not just in parts (e.g., only in the heading)?
Time of publication of the information	When was the information published? Is the information current?
Other authors	What do other authors say or write about the presented topic? Does this information match?
Reliability of information sources	Does the information come from reliable sources?

In the following text, the criterion of reliability of the source of information is highlighted as a criterion that needs more elaboration.

RELIABLE SOURCES OF INFORMATION

When evaluating sources of information, care must be taken to ensure that the sources from which the information is derived are reliable. The reliability of the information source can be determined using several criteria and auxiliary questions, which are tabulated below.

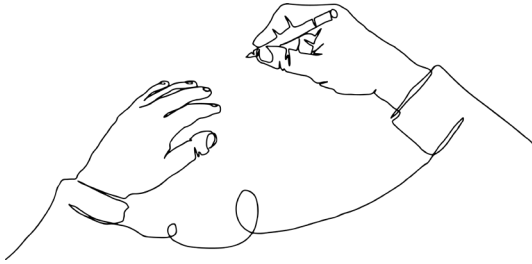
Table 12. Information source assessment criteria with auxiliary questions.

INFORMATION SOURCE ASSESSMENT CRITERIA	AUXILIARY QUESTIONS
The person responsible for the source of information	Who is responsible for a particular information source (which organization, institution, person, ...)?
The author of the information	Who is the author of the information coming from a certain source?
Presence of an information review.	Does the information source provide some sort of evaluation/review of the information it provides?
Timeliness of information	Is the information provided by the information source current and/or updated?
Objectivity and impartiality of information.	Is the information provided by the information source objective and unbiased?
Other (reliable) sources of information	Does the information source refer to other (reliable) sources of information?
Purpose of the information source	Who is the information source intended for?
The primary objective of the information source	<p>Is the primary goal of a particular information source to provide accurate information to the recipients of the information?</p> <p>Is there a perception that a particular information source is attempting to manipulate the information provided in order to deceive the recipient of the information?</p> <p>Does the information source contain promotional content?</p>

Task 18. Give an example of a reliable source of information. Explain what constitutes its reliability.

At the end of this part, it should be noted that if, according to the highlighted criteria for the reliability of the source of information, it is concluded that a particular source is reliable, this is not a guarantee that the information transmitted by that source is necessarily correct. Of course, errors are possible even with reliable sources of information, so they too should be viewed critically. What reliable sources of information do offer is the assurance that they are not intentionally presenting false information.

Space for making notes



2.

**Teaching for
critical thinking**

1. Teaching for critical thinking¹⁹

Numerous authors have written about teaching for critical thinking, of which it is worth highlighting those who have dichotomized different approaches to teaching/education by comparing the banking concept of education and education for liberation (Paulo Freire, 2002); the standard paradigm of normal educational practice and the reflexive paradigm of critical educational practice (Matthew Lipman, 2003); traditional education and progressive education (David Klooster, 2002); teaching as transmitting information and teaching as encouraging the discovery of meaning or aiming to shape the learner's experience (Vlasta Vizek Vidović, 2002). Consequently, two main approaches to teaching are distinguished - teaching for critical thinking and teaching as transmission of information²⁰. Teaching as information transfer, i.e. transmission teaching, is teaching that is characterized by the dominant transfer of the lesson content from the teacher to the learner. The teacher is at the center of this process - the teacher teaches, the teacher is a source of information that transmits the lesson content to the learner. The learner, on the other hand, passively absorbs this content, mechanically memorizes it, and eventually reproduces it. Such teaching exhausts itself in learning outcomes of the lower levels of achievement (memorization and comprehension). The established learning outcomes of the lower achievement levels include the dominant use of (1) the teaching method of oral presentation combined with frontal instruction; (2) the assessment of what is learned, exclusively through objective type tasks with the requirement of a correct answer. Teaching for critical thinking is teaching where the focus is on the student and the development of his or her competencies. It is characterized by the

¹⁹ Parts of the text of the handbook on teaching for critical thinking were previously published in the form of the workbook *How to Teach for Critical Thinking?* (Buchberger, 2020b) as part of the project *Increasing the employability of students through the improvement of the Center for Careers and Development of Internships - CEZAR*, which was co-funded by the European Union from the European Social Fund.

²⁰ It is also noteworthy that the dichotomy of teaching approaches mentioned in the didactic literature differs terminologically depending on which feature of teaching is emphasized. Thus, the following dichotomies of teaching approaches can be found in the literature: teacher/educator-centered teaching and pupil/student-centered teaching; traditional teaching and modern teaching; teaching aimed at active learning and teaching aimed at passive/reproductive learning, etc.

creation of lesson content in an active and cooperative relationship between teacher and learner. It is instruction that realizes its integrity by incorporating learning outcomes at all levels of achievement (memorization/recognition, comprehension, application, analysis, evaluation, and creation). Learning outcomes set in this way require the use of (1) different teaching methods, with an emphasis on active and cooperative methods; (2) different types of assessment - assessment for learning, assessment as learning, and assessment of learning with the use of different assessment procedures. Finally, it is teaching that develops and promotes a democratic classroom atmosphere in which students and teachers communicate, discuss, collaborate openly and respect each other.²¹

Teaching as information transfer and teaching for critical thinking can be further explained by didactic elements (from learning outcomes to classroom atmosphere) as shown in the following table.

²¹ More about the prominent dimensions of teaching for critical thinking will be presented later in the text.

Table 13. Comparison of teaching as information transfer and teaching for critical thinking through prominent didactic elements.

Didactic element	Teaching as information transfer	Teaching for critical thinking
Learning outcomes	<p>The learning outcomes domain is predominantly cognitive.</p> <p>The level of learning outcomes includes lower levels of recognition/recollection and comprehension.</p> <p>The knowledge dimension is predominantly related to factual knowledge.</p>	<p>It aims to include two domains of learning outcomes (cognitive, psychomotor, and affective domains), all levels of achievement (remembering/recognition, comprehension, application, analysis, evaluation, and creation), and all dimensions of knowledge (factual, procedural, conceptual, and metacognitive).</p>
Lesson content	<p>The lesson content is understood as fixed, rigid and inflexible.</p>	<p>The lesson content is understood as partly given, partly open to creation, it is flexible.</p>
Teaching methods	<p>Predominantly the method of oral presentation together with other traditional teaching methods (e.g. the method of reading and working on the text, ...).</p> <p>Predominantly frontal instruction and individual work.</p>	<p>A combination of different teaching methods with pronounced active learning and teaching.</p> <p>A combination of frontal instruction/ joint work, individual work and collaborative work - work in pairs, group work).</p>

... *Continued*

Assessment methods	Predominant assessment of learning through objective-type tasks.	A combination of different types of assessment - assessment of learning, assessment for learning, and assessment as learning. Use of different tasks (from objective-type tasks to essay type tasks).
Classroom atmosphere	One-way communication from teacher to student. Passivity of the students. There is a problem with student motivation and interest.	Two-way/multi-way communication. Cooperative relationships. Openness. Student activity.

Teaching for critical thinking can be defined as an intentional collaboration between students and teachers in which they are active and reflective subjects who interpret, analyse, apply, evaluate, and create lesson content.

At the end of this chapter, it is important to briefly evaluate teaching for critical thinking, that is, to point out its advantages and disadvantages with the aim of its improvement and successful application in practice.

Table 14. Advantages and disadvantages of teaching for critical thinking.

TEACHING FOR CRITICAL THINKING	
ADVANTAGES	DISADVANTAGES
<p>It meets the needs and requirements of a modern democratic society that is constantly and rapidly changing.</p> <p>It meets the needs and requirements of the labour market.</p> <p>It leads to better and deeper learning, slower forgetting of what has been learned.</p> <p>It is creative, dynamic and stimulating.</p> <p>...</p>	<p>It is not economic.</p> <p>It requires more preparation from teachers.</p> <p>It is unpredictable.</p> <p>Its effectiveness depends not only on the teacher, but also to a great extent on the students' activities.</p> <p>It is challenging for an online teaching environment and a large number of students.</p> <p>...</p>

2. Teaching for critical thinking competency

Critical thinking teaching competency includes a set of specific knowledge, skills, and values. In addition to the critical thinking competency (see Table 3 on page 21., 22.), it also includes a set of specific knowledge, skills, and values listed in the following table.

Table 15. Determining teaching for critical thinking competency as a set of knowledge, skills and values.²²

TEACHING FOR CRITICAL THINKING COMPETENCY		
CRITICAL THINKING COMPETENCY		
+		
KNOWLEDGE ABOUT TEACHING FOR CRITICAL THINKING	SKILLS FOR TEACHING FOR CRITICAL THINKING	VALUES FOR TEACHING FOR CRITICAL THINKING
Knowledge about teaching critical thinking. Knowledge of individual student differences. Knowledge about different topics of discussion...	Skills to help students develop individuality and self-confidence. Skills to use active learning and teaching methods. Skills to analyse and improve one's own teaching.	The value of learning The value of a learner-centred approach to teaching. The value of treating students with dignity, respect, and empathy.

²² Some teaching competencies for critical thinking were adapted from Vizek Vidović and Velkovski (2013).

... *Continued*

	<p>Skills to initiate change in the educational environment and motivate others to participate</p> <p>...</p>	<p>Openness to collaboration with diverse stakeholders (colleagues, parents, local community representatives, ...)</p> <p>Willingness to take action and promote students' rights in school and in the community.</p> <p>...</p>
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3. Dimensions of teaching for critical thinking

The teaching for critical thinking is determined by various dimensions (Buchberger, 2020a; 2020b), which are described below and detailed in further subchapters.

Table 16. Dimensions of teaching for critical thinking

DIMENSIONS OF TEACHING FOR CRITICAL THINKING	
Learning outcomes focused on the development of critical thinking	It includes learning outcomes at various levels of achievement, with an emphasis on analysis and evaluation.
Critical approach to the lesson content	It is not a matter of merely transferring the lesson content from the teacher to the learner, but of interpreting, analysing, synthesising, applying, evaluating, and innovating the lesson content.
Active teaching methods	It does not include the dominance of the oral presentation of the lesson content by the teacher with emphasized frontal instruction and the passive role of the students, but the active participation of the students through the use of various teaching methods and cooperative learning.
Active assessment methods	It does not involve the dominance of assessment of learning through objective-type tasks, but assessment for learning, as well as learning and assessment of learning, self-evaluation, collaborative assessment, ...
Critical action	It includes the transfer of developed competences to everyday life and the labour market, as well as active participation in the community.
Democratic classroom atmosphere	It includes cooperation, dialogue, openness, ...

LEARNING OUTCOMES FOCUSED ON THE DEVELOPMENT OF CRITICAL THINKING

Learning outcomes focused on developing critical thinking include all six levels of achievement (Bloom, 1956; Anderson and Krathwohl, 2001)-remembering, understanding, applying, analysing, evaluating and creating. Consequently, lesson planning based on teaching for critical thinking cannot be exhausted in the learning outcomes of the lowest levels of achievement (such as the outcome - After active participation in class, students will be able to name representatives of y . or After active participation in class, students will be able to define y .). In classes based on critical thinking instruction, examples of learning outcomes at the lowest levels of achievement are only the beginning and a part of instruction that achieves its completeness by incorporating learning outcomes at the higher levels of achievement. In this sense, in a lesson based on critical thinking, students are expected to be able, after active participation in the lesson, to - name key concepts, define key phenomena, give examples, evaluate phenomena and formulate their own opinion on the subject, etc.

The following text provides examples of learning outcomes that focus on the development of critical thinking and provide teachers with guidance for planning their lessons with the goal of developing critical thinking competency.

Table 17. *Learning outcomes focused on the development of critical thinking*

LEARNING OUTCOMES FOCUSED ON THE DEVELOPMENT OF CRITICAL THINKING
The student extracts relevant information about the topic.
The student distinguishes between relevant and irrelevant information about the topic.
The student interprets relevant information about the topic.
The student gives examples that further explain the topic.
The student evaluates key phenomena related to the topic (states advantages and disadvantages).
The student justifies a thesis in relation to a specific phenomenon.
The student identifies reliable sources of information.
The student lists the characteristics of reliable sources of information.
The student distinguishes between reliable and unreliable sources of information.
The student gives an example of an argument on the topic.
The student evaluates the validity of the argument on the topic.
The student applies the rules of natural deduction in making an argument.
The student recognizes logical errors in argumentation.
The student overcomes logical errors in argumentation.
The student applies the principles of critical discussion.
The student discusses the topic in an argumentative way.
The student structures information into a meaningful whole.
The student leads the discussion.
The student actively listens to the interlocutors and asks questions for further discussion.
The student makes decisions based on justified reasons.
The student creates a vision and proposes solutions.
The student designs and innovates practice.

... *Continued*

The student demonstrates openness to discussion.
The student demonstrates enterprise in his/her work.
The student formulates his/her own views on the topic.
The student justifies his/her own views on the topic.
Student defends his/her own views on the topic.
The student criticizes other views on the topic.
The student respects others' views on the topic.
The student promotes tolerance and non-discrimination.
...

CRITICAL APPROACH TO THE LESSON CONTENT

Authors concerned with the teaching for critical thinking emphasize that critical thinking is best learned when such thinking is, in fact, the way to approach the lesson content (Steele, Meredith, and Temple, 2001a). Based on the definition of critical thinking through the key competencies identified by Facione (1990) in the framework of interpretation, analysis, evaluation, inference, and expression, a critical approach to content entails that both students and teachers approach content in ways that go beyond mechanical reproduction of the content. Viewing this dimension of critical thinking instruction in this way reveals that a critical approach to the lesson content involves multiple levels of achievement in achieving learning outcomes, from the level of memorization (and “just” of key information) to comprehension, application, analysis, and evaluation, to creation (e.g., through designing arguments and objections or creating possible solutions to the problems posed, etc.). Finally, it is emphasized that for those who think critically, basic understanding of information is only the starting position and not the goal of learning (Steele et al., 2001).

A critical thinking approach to lesson content, therefore, includes several strategies that identify ways in which critical thinking can be implemented in educational practice. The listed critical thinking strategies are listed in the following table.

Table 18. *Critical thinking strategies.*

CRITICAL THINKING STRATEGIES
<p>Open ended questions strategy</p> <p>The lesson content is approached critically when open-ended questions are asked, i.e., when it is asked, for example:</p> <ul style="list-style-type: none"> • What is important, what is not important, and why? • What are similar concepts? • What are the advantages, what are the disadvantages? • What would be the alternative? • In which situation is this acceptable, in which not? • What is the problem/challenge? • Who benefits in a given situation? • To whom can it cause harm? • In what way can the community benefit? • How can a positive change in the environment be achieved? • In what ways can it be improved? • How will it function in the future?
<p>Strategy of obtaining essential information</p> <p>The critical approach to the lesson content is achieved by distinguishing essential from non-essential information.</p>
<p>Information interpretation strategy</p> <p>The critical approach to the lesson content is achieved by paraphrasing and interpreting information.</p>
<p>Strategy of comparing information and determining their relationship.</p> <p>The critical approach to the lesson content is achieved by comparing information – determining their similarities and differences and relationships.</p>

... *Continued*

Information evaluation strategy
The critical approach to the lesson content is achieved by evaluating information- identifying its advantages and disadvantages
Information source evaluation strategy
The critical approach to the lesson content is achieved by evaluating sources of information according to the criterion of reliability.
Strategy of forming arguments
The critical approach to the lesson content is achieved by forming arguments related to the teaching and learning content.
The strategy of forming counter-arguments
The critical approach to the lesson content is achieved by forming counter-arguments related to the teaching and learning content.
The strategy of imagining possible situations
The critical approach to the lesson content is achieved by imagining possible situations related to the teaching and learning content.
The strategy of forming one's own opinion
The critical approach to the lesson content is achieved by forming one's own opinion towards the teaching and learning content.
The information transfer strategy
The critical approach to the lesson content is achieved by transferring information related to the teaching and learning content into everyday life, other areas of learning, the labour market and so on.
The strategy of looking at information from different perspectives
The critical approach to the lesson content is achieved by viewing information related to the teaching and learning from different perspectives.
The strategy of questioning assumptions
The critical approach to the lesson content is achieved by questioning assumptions related to the teaching and learning content.

... *Continued*

<p>The strategy of identifying problems and providing different solutions</p> <p>The critical approach to the lesson content is achieved by identifying problems related to the teaching and learning content and providing different solutions.</p>
<p>The strategy of critical reading</p> <p>The critical approach to the lesson content is achieved by reading the teaching and learning content critically. Critical reading is a strategy of deeper acquisition, but also of interpretation, analysis and evaluation of the meaning of the text read.</p>
<p>The strategy of critical writing</p> <p>The critical approach to the lesson content is achieved by writing about the teaching and learning content critically. Critical writing is a strategy of reflective writing on a particular topic that involves interpreting, connecting, and comparing information related to the topic, emphasizing the importance and application of the topic, and finally, asking questions and developing a discussion about the topic. Critical writing refers to:</p> <ul style="list-style-type: none">• Formulating discussion questions;• Establishing the goal of the text;• Interpreting key information on the topic of discussion;• Formulating the basic thesis and argument in response to the discussion question;• Analysing the different positions in response to the discussion question;• Formulating open-ended questions about the discussion topic.

In the further course of the text, examples of various discussion texts (in the form of an article of an internet portal, a Facebook post, an interview, a scientific article) with comments by the author are presented in order to highlight the elements of critical thinking for later application and transfer to different contexts.

An example of a discussion text²³ 1 – article from an Internet portal: *Entrance exam is not cause for anxiety, but the false idea of excelling in everything is: Just look around you* (Jokić, 2022).

Entrance exam is not cause for anxiety, the false idea of excelling in everything is: Just look around you

Boris Jokić

„Miki, why all the fuss about school...,” began the banter in the neighbourhood café, while the waitress brought the third beer. I’ve read that there are no more points for enrolling children in school who are a bit slower and cannot read and count well. This snide remark was followed by another ‘friend’: ‘F..., why did you divorce Maja anyway.’

In the introductory part of the discussion text, the author quotes a line from everyday life that vividly introduces the reader to the topic of discussion.

While news on education rarely succeeds in breaking through the heavy smoke screen of such cafés, news about a change in high school enrolment criteria has what it takes. Especially when the customers’ children are in eighth grade of primary or fourth grade of secondary school.

The proposed provision amending the Ordinance on the Elements and Criteria for the Selection of Candidates for Enrolment into 1st Grade of Secondary School (yes, you read that right), sent out for public consultations by the Ministry of Science and Education, contains some positive changes and some that need revision. On the positive side, schools that deem it necessary will be given the opportunity to organize an entrance exam.

²³ Readers are asked to read the examples of the discussion texts completely and without comment. After reading them completely (critically), readers can analyse the texts with the indicated comments and guidelines from the Handbook.

In the rest of the text, the author makes claims that open the debate and thus seek justification.

This is not new, because such a provision has existed for several years and is used by a number of schools in Zagreb. Although such a possibility is now open to a larger number of schools, it is not expected that a significant number of them will opt for such a procedure. The issue of entrance exams primarily concerns a narrow circle of several grammar schools in Zagreb. If we just take a look at the wider area of the city of Zagreb, interest in grammar schools is declining, and the media rarely mention the fact that grammar schools in Zagreb have remained unfilled for years, even in the fall terms.

Another reason why schools probably won't be more interested in entrance exams is demographic. Declines in student enrolment have been occurring for decades, and a new wave of declining enrolment will hit high schools in the coming years. The changes in the regulations include an increase in the percentage of students' overall entrance exam scores, which will allow some to make up for a C or B from seventh or eighth grade by scoring better on the exam. Analysis of entrance exam scores at the schools that administer them shows that there are such students, but they are far fewer than the public thinks. In most cases, the school grades correspond to the results that the young people achieve in the entrance exam.

The author refers to the results of previous scientific research.

Nevertheless, these changes are positive. It would be even better if they were accompanied by an end to the calculation of overall achievement, which is calculated as the average of final grades at the end of the school year. This average does not reveal students' strengths and weaknesses, interests, and potential, and is not a valid indicator of a student's individual character. From the above, it is clear that using it for secondary school enrolment is not justified. It harms young people and Croatian society in several ways. It gives the false idea that it is possible to be excellent in everything. Life teaches us that there are no people who are good at everything. Where are the people among us who are excellent mathematicians, who can express themselves

creatively, who know foreign languages, who are talented in sports, who are good at painting, singing, chemistry and Latin?

It is enough to look around the local café, the Academy of Sciences and Arts, the sports and representative clubs - and see that there are none. None. Except at school. Instead of insisting on overall success expressed as an average to two decimal places, more emphasis should be placed on final grades in subjects that are important for continuing secondary education in a particular field and programme.

The author provides an answer, a solution to the discussion question.

In any case, external examinations at the end of primary school education, which have become popular among the public under the name of “small matura exam,” should be avoided. Such exams at the end of primary school education would be a complete and extremely expensive failure. One of the main reasons for this is that they apply to the entire student population, including those who have mastered, for example, basic mathematical operations by the end of eighth grade (and for some this is questionable), but also those who are exceptionally good at mathematics and are bored with the primary school material. There is no exam that could adequately test such knowledge differences and at the same time serve as a good selection tool for admission to, say, a science and mathematics high school.

The author presents an argument for the claim, a solution that he states should be avoided.

The second and more important part of the changes in the Ordinance refers to extra points that can be earned by students with health problems and those living in “difficult educational conditions” due to unfavourable economic, social, and educational factors. Our analyses show that the number of students who have earned extra points has increased significantly over the years-particularly among students with health problems. Anecdotal insights from the schools themselves show that some parents have claimed them precisely because of

their children's enrolment in secondary school, abusing a positive tool that helps those students who are not receiving an education and are not living in equal conditions. The locational analysis of the data on receiving additional points shows that they are again mainly related to the city of Zagreb. The idea of the Ministry to regulate this part of the enrolment criteria is welcome, but the fact that the decision applies indiscriminately to all students is neither justified nor fair. Within these categories, there are those whose education has been particularly affected by health, social, and family circumstances, and it is imperative that education policy show sensitivity to their situation. Yes, there are those who cheat and lie, but support should not be denied to students with cerebral palsy or those who live and learn in severe poverty and succeed in school despite these conditions. In this part of the amendments to the Ordinance, it is necessary to classify those who should receive an additional point.

The author responds to a possible counter-argument to the argument presented before.

And while half-drunken laughter spread through the crowd of the Jarun café that Saturday night, a quick and clear answer came: "Pero, stop shitting around. Anything goes, but don't talk about my kid."

The author vividly concludes the discussion text. :)

An example of a discussion text 2 – an article from an Internet portal: *What does defending Europe mean?* (Žižek, 2022).

What does defending Europe mean?

Slavoj Žižek

After the Russian attack on Ukraine, the Slovenian government immediately announced that Slovenia was ready to take in thousands of Ukrainian refugees. As a Slovenian citizen, I felt not only proud but also ashamed.

After all, when Afghanistan fell to the Taliban six months ago, the same government turned away Afghan refugees on the grounds that they should stay and fight in their country. A few months ago, when thousands of refugees, mainly Iraqi Kurds, tried to flee Belarus to Poland, the Slovenian government offered military aid to Poland on the pretext that Europe was under attack, to support it in its shameful efforts to prevent the refugees from entering the state.

In the introductory part of the discussion text, the author provides essential information for the development of the discussion.

Thus, two types of refugees emerged throughout the region. A February 25 tweet from the Slovenian government clarified the difference between them: “Ukrainian refugees come from an environment that is culturally, religiously, and historically something completely different from the environment from which refugees from Afghanistan come.” Due to public outrage, the tweet in question was quickly deleted, but the obscene truth was already there: Europe must defend itself against non-Europe.

The author makes a normative claim - Europe must defend itself against non-Europe - thus making a claim for discussion based on the key information presented about refugees and the different attitudes towards them.

In the current global struggle for geopolitical dominance, this approach will be disastrous for Europe. Our media and elites characterize this struggle as a conflict between the “liberal” sphere of the West and the “Eurasian” sphere of Russia, ignoring the larger group of countries in Latin America, the Middle East, Africa, and Southeast Asia that are now watching us closely.

China is also unwilling to support Russia as a whole, although it has its own plans. In a message to North Korean leader Kim Jong-un a day after Russia launched its attack on Ukraine, Chinese President Xi Jinping said China is ready to push forward the development of friendly and cooperative relations between China and North Korea “under new circumstances. “The fear is not unwarranted that China could use these “new circumstances” to “liberate” Taiwan.

Now, we should be concerned that the radicalization we are seeing, particularly with Russian President Vladimir Putin, is not just rhetorical. There are many liberal leftists who were convinced that both sides knew they could not afford an all-out war, and who thought Putin was bluffing when he deployed his troops on the Ukrainian border. Even when Putin called Ukrainian President Volodymyr Zelensky’s government a “gang of drug addicts and neo-Nazis,” most thought Russia was merely occupying two breakaway “people’s republics” controlled by Kremlin-backed Russian separatists, or at worst the Donbass region in eastern Ukraine.

Now some who call themselves leftists (although I do not count them as such) are accusing the West of saying that the American president was right about Putin’s intentions. The argument is well known NATO has been slowly tightening the ring around Russia, fomenting colour revolutions in neighbouring countries and ignoring the well-founded fear of a country that was attacked by the West in the last century.

There is some truth in this, of course. But to insist only on this is tantamount to justifying Hitler because of the unjust Versailles Treaty. Worse, it concedes to the great powers the right to the basins to which all other states must submit in order to maintain global stability. Putin’s assumption that international relations are a competition among the great powers is reflected in his repeated assertion that he had no choice but to mediate militarily in Ukraine.

Is this really so? Is Ukrainian fascism really the problem? That question would be better addressed to Putin's Russia. Putin's intellectual guide is Ivan Ilyin, whose works are reprinted and offered for reading to state apparatchiks and military recruits. After being exiled from the Soviet Union in the early 1920s, Ilyin advocated the Russian version of fascism: the state as an organic community led by a paternal ruler, in which freedom consists in knowing where one belongs. For Ilyin (and Putin), the purpose of the election is to express collective support for the leader, not to legitimize or elect him.

Aleksandar Dugin, Putin's court philosopher, faithfully follows in Ilyin's footsteps, adding to them the postmodern embellishments of historicist relativism: "Every so-called truth is a matter of belief. Thus, we believe in what we do and believe in what we say. And that is the only way to determine the truth. So we have our particular Russian truth that you have to accept. Indeed, if the United States does not want to start a war, it must admit that it is no longer the sole ruler. With regard to the situation in Syria and Ukraine, Russia says, "No, you are no longer in charge." The question is who rules the world. Only a war can really decide that."

And what about the people in Syria and Ukraine? Can they choose their own truth or are they just a battleground for the self-appointed rulers of the world?

The notion that each "way of life" has its own truth makes Putin the darling of right-wing populists, including former U.S. President Donald Trump, who called Russia's attack on Ukraine an act of "genius". The feeling is mutual: when Putin talks about the "denazification" of Ukraine, we should always remember that he supported Marine Le Pen's National Rally in France, Matteo Salvini's Lega in Italy, and other truly neo-fascist movements.

"Russian truth" is just a convenient myth to buttress Putin's imperialist vision, and Europe can best counter it by building bridges to developing and emerging countries, including a number that have a long list of legitimate grievances against the West's colonization and exploitation. "Defending Europe" is not enough. The real task is to convince other countries that the West can offer them a better choice than Russia and China. The only way to do this is to change ourselves and consistently eradicate neo-colonialism, even if it is packaged in the form of humanitarian aid.

Based on the presented argumentation, the author concludes and offers a solution to the discussion question.

Are we ready to prove that by defending Europe we are fighting for freedom throughout the world? Our shameful refusal to treat refugees equally sends a very different message to the world.

With this question, the author implicitly makes the claim that Europe is not fighting for freedom around the world, and underlines what this is based on - the rejection of equal treatment of refugees.

* The text was originally published on the Project Syndicat portal.

Example of a discussion text 3 – a post from a social network: Correlation vs. Causalization (Ceci, 2022).

Correlation vs. Causalization

Saša Ceci

The fact that there is a correlation between two things does not automatically mean that there is a causal relationship between them. We all know that. So why do people sometimes put two things that have nothing to do with each other side by side? Because our brains cannot help it - we so desperately need to understand what causes what effect that we get that feeling as soon as we see even a hint of correlation.

At the beginning of the discussion text, the author makes claims, asks questions and presents the answer to the question.

In our long evolutionary past, this was a trait that gave our ancestors an advantage. Today it sometimes presents us with serious problems. One of the reasons why correlations are still interesting to us today is that in research they give us clues to possible causalities, to the laws of nature, which she still successfully hides from us. So, when someone shoves a correlation in our face, we have to resist the urge to believe it immediately and take it as an invitation to further research.

The author further develops the discussion by providing explanations and examples related to the topic of correlation and causality between certain phenomena.

We all know that correlation does not necessarily mean causation, but it is much less well known that there are some such connections that do not manifest themselves as correlations. Many things in nature are connected in much more complicated ways. For example, objects fall at different rates

because of air resistance. The higher the resistance, the slower they fall. That's pretty simple, isn't it? But it is not. Because a cut branch with leaves has a much higher air resistance than a single leaf and still falls much faster. The parameter we neglected, and we were not allowed to, is mass. The branch falls faster because it is much heavier. Such parameters or variables are called confounding in English. We didn't think we should take them into account. We started from wrong assumptions, and assumptions are the mother of all... well, you know that, too.

The author gives examples of more complex relationships between phenomena than correlation and causality.

What is the conclusion of this? I actually have no idea.

Some would say, like Ilija Čvorović, that everything is the opposite of what it seems to be. We know that it is not. But sometimes this thought seems to be tempting, because they really lead us around by the nose every now and then with some stories in which they shove some correlations in our noses, or warn that they are not causal relationships, although they are a perfectly clear roadmap, or talk about not having taken into account all the confounding variables. It's not so crazy when we have someone who persistently and systematically lies to us. But there is also a solution. Abraham Lincoln said you can lie to all the people sometimes, and you can lie to some people all the time, but you cannot lie to all the people all the time. When scientists find out that someone has been slandering them for a while, that person never slandered any of them again. And that's the famous scientific consensus that I love - not the consensus between the deceivers and the scientists who are OK, but the conclusion of those who are OK after they have exposed the deceivers. That leaves only the problem of those who can be lied to all the time. I am afraid I cannot help them. PS Causalization is not a word. Causality is. But never mind.

The author concludes the text in an interesting way with examples of manipulation of the topic of correlation and causality.

An example of a discussion text 4 – an interview (composed from several miniature discussion texts): I do not aspire to return, nor have I aspired to leave (Sandić i Iveković, 2022).

I do not aspire to return, nor have I aspired to leave

Sanjin Sandić i Rada Iveković

On the occasion of the recent publication of the book “Politics of Translation”, the leading European philosopher talks about the spirit of palanquin, hard-won equality, departures and returns.

Rada Iveković is a distinguished philosopher and writer. She lives and works in Paris. What to highlight from her truly impressive biography? She has taught at the Department of Philosophy at the University of Zagreb and at several universities in France, including Paris-7 (Jussieu) and Paris-8 (Vincennes à St. Denis). She was one of the programme directors at the Collège international de philosophie in Paris, where she also teaches. As a visiting professor, she has taught at several major universities worldwide. Her areas of research and interest include comparative and Asian philosophies, political philosophy, feminist theory and philosophy, and a range of related topics. We spoke on the occasion of the recent translation of her book “Politics of Translation”, published in a joint translation by her and Milena Ostojić at Fraktura Publishing House.

Introduction about the author with an announcement of the interview.

Etienne Balibar reminds of your formulation/idea of the “unbearable in-between”, which you should bring closer to our readers, since we are in a certain way focused on this “space”.

- What is not so clearly seen in our translation is that it is also “between”, and between (at least) two. This is how Radomir Konstantinović defines palanquin:

it is a dangerous state of all possibilities, it can pull us to one side or the other. The “in-between” is the zero point, the place of possible choices, decisions, politics, but also the dice, that is, the most common place of our situation. It is uncomfortable and also risky, because of at least one of the parties it refers to, which can end in violence. The extremes to which it refers are even less bearable than the “in-between” in a situation where the family, society or state relentlessly demands one to choose: female or male, Hindu or Muslim, Serb or Croat, black or white, East or West, etc.? Binarism, in general, must not be rejected. The Greeks called it “stasis”, a possible “standing still” in a place, waiting, calm (before a storm?), but also civil war. In palanquin, nothing is guaranteed, neither a good nor a bad outcome, which means that it is up to us to act, even without a guarantee. “Normative constructions such as (hetero)sexual difference and the nation are infinitely and infinitely constitutive of the community and its logic/reason,” writes Athena Athanasiou in the book *Agnostic Mourning, Political Dissidence and the Women in Black* (translated by Ana Imširović, Belgrade, Women in black, 2020), but this logic is repressive and challenged by non-sovereign and incomplete subjects who remain intentionally undefined.

The author refers to and cites the ideas of another author to support her own theses.

There were several turning points in your life - again, I'd like you to choose two for us and describe their impact on your life, now, with hindsight...

- You said it well. What is the advantage of hindsight? It has been shown that we are rarely, especially collectively, able to learn lessons from the past. In every life there are many turning points, I'm not original in that aspect. One such turning point for my generation was 1968, when the potential limitations of the political decisions of my parents' generation became clear, both to us and to them, for whom World War II was the greatest turning point. Some of our parents, including mine, were partisans, and in 1945, when I was born, they started building the country from scratch. The year 1968 challenged all of that, both for my generation and for their generation. From there, you can

follow many aspects of the “sixty-eight.” Since I became a graduate student at the time, I would like to mention here that the questioning of authority at that time, the doubting of given and ready knowledge in learning, and the abolition of faith in guaranteed happiness at the expense of depoliticization were our generational “spoils of war” from that tumultuous watershed year. It coincided with our (to some extent) growing up, but it also gave us guidelines for the future. This year liberated and “legalised” doubt.

The second turning point is certainly the war (stasis) in the 1990s, because of the scandalousness of the war and the inadmissibility of the violence itself, because of the killing and suffering, even more than the resulting division of the country. The 1990s led me further in the direction I had already been led in 1968. My later intellectual work was significantly shaped by these circumstances.

The author states what the turning points were for her and her generation and gives the reasons why she sees it that way.

You have mentioned several occasions that you yourself could not have foreseen the disintegration of the former state in which you eventually became the Witch of Rio. The late Mira Furlan and Dubravka Ugrešić also spoke about this experience, and now I have seen it in your text as well. What would you say is the cause of this? Why do we not want to see the state we are in? Can we see it at all?

- Why “former state” and not “Yugoslavia”? Is this word censored? Inventing “witches” is unfortunately a normal phenomenon in a masculinist and classist society, which does not mean that it should be tolerated. “Witches” are constructed in every society and at every time as a stigmatization of the female, destitute, and potentially rebellious element that needs to be tamed. In Sudan, for example, women who peacefully demonstrated in the streets for political reasons were recently subjected to massive rape and brutality. Witches, burned at the stake by the thousands during the Inquisition and tried in exclusively male courts (also during the Enlightenment), as well as the persecution of women, female knowledge, and female professions, were

embedded in the very emergence of early capitalism. This is made possible by the unpaid female reproductive work and care which are not taken into account in the assessment of productive labour (Silvia Federici). It should be clear that capitalism and class society in general were systemically created according to the male model. In this respect, and especially with regard to the prevailing patriarchy, our socialist society was not much better than the capitalist one at the level of customs and everyday life. After all, they came from the same modernity, the Western one. But as far as women's human rights are concerned, socialism was much more advanced, and so it is no wonder that this was immediately challenged in all states as soon as the common Yugoslavia disintegrated. In both systems, the dominant male gender with its heroic, warlike, militaristic values determined the order of genders and classes and clearly demarcated them. Everyday life and the customary way of life tend to impose themselves on us as "normal," neutral, and universal. Even today, in the dispute between the "East" (Russia) and the "West" over Ukraine, one can see that each side sees its own projection as normal and wants to impose it on everyone as universal. Each side shamelessly speaks of "our" (i.e., their) "values." Some women in Yugoslavia were even quite farsighted, but this was paid dearly by persecuting some of us, e.g. all women, not to meddle in politics, the public scene or the "serious" male sphere. During the French Revolution, women who claimed the supposedly universal "human and civil rights" for themselves (i.e., women) were driven to the guillotine (e.g., Olympe de Gouges), which they were entitled to, even though they were not given the right to vote. Universal suffrage was thus only universal male suffrage, which at the same time was considered universal.

The author presents theses, which she tries to justify, and so her answer is a small discussion text (small in scope, but large in content and quality of argumentation).

Can we ever return to where we left off spiritually and intellectually? Is there even room for a return in our / your lives? You, it seems to me, are not a lover of nostalgia or melancholy.

- Well, it seems to me that we have never completely left, but we have not always completely returned either. Especially in these days of globalization, when we all live “here” and “elsewhere” at the same time, following or even participating in events on different continents. If I have “left,” as someone would describe it, I have not left my own life or my friends. Each continuity consists of several discontinuities and vice versa. I do not feel that there is any particular interruption in my life, despite the turning points. The biggest interruptions are when you lose someone close to you, and that happens more and more as the years go by. I do not aspire to return, nor did I aspire to leave. I do not care where I am as long as I have a circle of friends, decent conditions and something to do. Of course, that is also a privilege.

The author describes her very personal view of departures.

I would like you to say something about women and palanquins, considering your respect for the great Radomir Konstantinović, I would like you to say something about women and palanquins. About that palanquin spirit, which is not only, as “we here” like to think, our...

- Domination always strengthens gender, class and other subdivisions of societies, but the gender that is considered “natural” first. This also reinforces the subordination of women, although this is no longer necessarily openly admitted: on the contrary, it is made invisible. Konstantinović knew very well that national language and gender, and thus gender and genre, are in the same package. And translation raises the question of national language and gender, usually under the mistaken assumption that they are fixed terms that do not need to be defined. Moreover, everything depends on your translation policy. In short, translation assigns the label of “nation,” “national language,” or “gender,” among other instruments of power. These labels are assigned before we can prove that they mean nothing. A child is assigned a place in society as a boy or girl even before he or she has formed an opinion or made a decision about it. Konstantinović knew that our difficult Balkan patriarchy and nationalism belong together, that they are one. Palanquin is possible (even probable) everywhere, as is primary nationalism, which Konstantinović called

Serbian Nazism, using Serbian nationalism as an example. In this sense, there are other Nazisms and Fascisms.

Every society knows and practices gender segregation - the human always tends to spill over into what is considered animal. Why is equality so difficult to achieve?

The author is presented with a question for discussion, but it is not open-ended; it already contains the thesis that equality is difficult to achieve.

- I would rather say that every conceivable society knows and practices gender segregation, but that it does not have to be that way. So let us imagine something different, and work on it! As for the animals, we are on the same side as they are, among the living beings. It is life that we must respect above all. The animal in us is not necessarily the worst, but the truth is that we are often worse than animals, because people kill both for sport and in the game of war, without the need to survive, and these are mostly certain males (of course not all) in a system that they dominate and that supports them. This is a world in which gender discrimination, constitutive of an unequal system, is accepted and generalized as a pattern for all other inequalities and injustices. There is a general resistance to considering violence against women as well as war crimes as systemic and constitutive, which is another programmed political oblivion.

Observe the arguments presented by the author, for example: The animal in us is not necessarily the worst, but the truth is that we are often worse than animals because people kill both for sport and in the game of war without the need to survive.

How was it to find a “new language” for you, considering that the foreign languages equally separate us, as you say - from birth, from the beginning. You claim to live in pluri - heteroglossia. Can you clarify this?

- The way gender is understood differently within the same language, the way gender and genre diverge, seem to be examples of the same phenomenon, if we agree, I think, that translation occurs not only between different languages, but also within the same one - for example, “mother tongue,” we know that there is no final translation. Translation as a constitutive possibility precedes language. We need to keep all translation channels open. Then our translation policy will decide the choice of meaning and significance. I am not an exception, I live in several languages, like many people on earth. This enriches me, but there is nothing mystical about it. This is a common situation, in some countries it is even the rule. All languages, like knowledge, are mutually incomplete, so they complete each other, they call each other even or especially, when they reject the other.

The individual life begins with the first exile, as you write: from the “mother’s” security, the origin, the identity (or their crazy idea) - in short, the myth of the mother tongue is quite dangerous...

The author is presented with the thesis - the myth of the mother tongue is dangerous - which she comments on - refutes it or agrees with it and justifies both options.

- The myth of the mother tongue may or may not be dangerous. But any myth that is exaggerated can be fatal. The mother tongue is not the language of our mother (in patriarchy it is rather the language of the father, though not always), but it is the mother of all our languages, real and possible. It is a guarantee that we can learn any other language. But the national language as the “best”, “purest”, “noblest” and better than the neighbouring language, achieved through standardization, is dangerous because the nationalist idea comes from a world closed to others and to the future, oriented to a constructed past.

Translation is there to create peace, but it is also the vehicle of violence. I would like to ask you to give us an example of this statement...

The author is confronted with a thesis for which examples are requested.

- Well, translation does not guarantee peace, peace depends on translation policy and language policy. Any language standardization is violent (look at the French language), and in many cases national standardizations have been part of enemy and war projects from which a national language emerges (or the nationality of a language is forcibly changed). Translation then becomes an instrument for nation building and a national language, no wonder it is warlike. Language itself, of course “our” language, the narrative of national culture, etc., become instruments of war. Immediately after a series of wars and civil wars in the Balkans, differentiated dictionaries of the Serbian and Croatian languages appeared in the Yugoslav countries that had a common language, and in about thirty years they managed to impose different standardizations of today’s enemy official languages, more in written form than in oral use. But differences also mean richness and greater choice. Translation can help reconfigure established knowledge networks; it shifts a concept, relocates it, transplants it, or re-situates it on a different terrain, language, or context (time, space, and culture) and fosters a surplus of imagination or different imaginations.

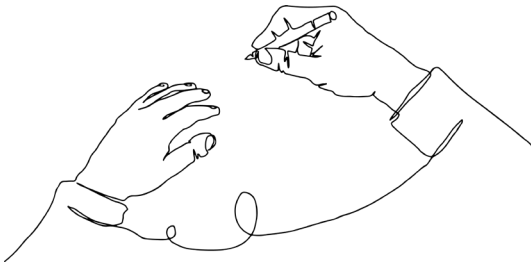
What is important to you that remains untranslatable in life? If you knew what it is, it would probably be translatable, but here - let us at least try to get to the bottom of this...

- Well, with translation it is different. Translation is necessary and always inevitable, it is constantly in flux whether we like it or not, even if it fails, but its quality is not guaranteed by anything, because it depends on the translation policy applied. Thus, even in translation, something always remains untranslated, even untranslatable, in the translation itself. This is the rule, and it is a good thing. There is neither equality nor completeness nor agreement between the two languages. There is no absolute translation, fortunately, otherwise we would be in totalitarianism. Something can always be said better in another language as well as in one’s own, albeit differently. No language is exhaustive.

Although you offer us a possible conclusion in your book - what is the purpose of the politics of translation?

- Well, that depends on what kind of translation policy we are talking about. Translation is both impossible and inevitable. It is hospitality to the other and otherness in itself. It can be done in a spirit of cooperation and openness, but it can also be a sign of a belligerent politics of irreconcilability. Indeed, from the perspective of Western hegemony and domination, the concept of the political has become normative for others. In “my” translation politics, the double front of the term “partage” (“sharing” in two opposite meanings), which means both sharing and sharing-with-others as well as participation in (reason), forces us to agree in the same breath to the impossibility-in-simultaneity (incom-possibilité) of two fronts or meanings of the term. The dialectic of their interaction “between” these two fronts, advocating pluralism, disqualifies not only toxic binarity but also the attribution of any identities. The registers of our conceptual apparatus that organize our knowledge interact with and are isomorphic with our social organization and hierarchies. The same hierarchies operate in the social sphere as between our disciplines and our theoretical knowledge. What is rejected in the translation policy proposed here, in order to avoid any kind of unilateral totalitarianism, is the normativity of the concept of the political and its default. Access to the political is challenged by those who are considered second-class human beings by domination.

Space for making notes



ACTIVE TEACHING METHODS

Research results on the use of the oral presentation method of teaching show that students who are taught in this way have a harder time acquiring knowledge and they forget it more quickly. In addition, the attention of the audience decreases after fifteen minutes of a one-way presentation, which is a clear sign of the lack of the mentioned teaching method (Vizek Vidović, Benge Kletzien and Cota Bekavac, 2002). The above also shows that the so-called frontal instruction needs to be enriched with different teaching methods, focusing on greater activity of students. The use of active teaching methods means a move away from reducing teaching to frontal instruction as well as an active commitment to incorporating cooperative forms of work into the classroom - pair work, group work, and teamwork. Teaching for critical thinking suggests a combination of different forms of work, ranging from individual, frontal to various forms of collaborative learning.

The dimension of active teaching methods, therefore, includes (a) the use of various teaching methods, from the method of oral presentation to conversation to various techniques of active learning and teaching, such as brainstorming and role-playing; (b) the use of various forms of work in the classroom, from frontal and individual to cooperative forms of work. Similarly, the dimension of active teaching method refers to the design and innovation of teaching in the category of teaching methods.

Examples of teaching methods that promote the development of critical thinking²⁴

1. **Think** is an active teaching method that encourages student activity in the simplest and most basic way. Before giving students ready-made information about what is being taught and learned, the teacher asks them to think about a particular question/topic. Students do not always need to be asked to verbalize and/or share their thinking with the group.

2. **The Conversational Method / The Questioning Method** is an active teaching method in which the teacher does not give the students ready-made information but asks them questions about the lesson content so that the students can find the answers themselves. In this way, students' activity is encouraged and their engagement in the teaching process is ensured. In addition, students' prior knowledge is tapped into, which encourages the development of new ideas, different perspectives, etc. as they approach the lesson content.

3. **The INSERT method** is an interactive way to read the text critically and find (1) information that is already known (mark with +); (2) new information/ what is learned through reading (mark with !); (3) information that is unclear, confusing, ... (mark with ?); (4) information you want to know more about (mark with →). Text in the margins is marked or information is recorded separately according to the template INSERT.

²⁴ Examples of active teaching methods (1-12) were adopted and adapted from Benge Kletzien and Cota Bekavac (2002) and Vizek Vidović, Benge Kletzien and Cota Bekavac (2002), other methods (13-15) were created by the author of the Handbook.

INSERT METHOD			
+	!	?	→

4. **Questions to the Author** is an active teaching method in which students are encouraged to take an active role in the process of reading texts. As a first step, students are asked to read the text thoroughly - filtering out key information, picking out unclear terms, etc. After the thorough reading, students formulate questions about the text as if they were addressing the author. The questions can be phrased as follows:

- *what is your opinion of x?*
- *what are you trying to say?*
- *how do you justify x?*
- *how does this relate to your previous views on y?*

5. **Anticipatory reading** is an active teaching method in which students are encouraged to read the text thoroughly, pausing to consider the questions: What do you think will happen next? On what basis do you conclude that? After predicting what will happen, students should answer the question: What really happened? Anticipatory reading increases interest in the lesson content, but also contributes to following and comprehending the text.

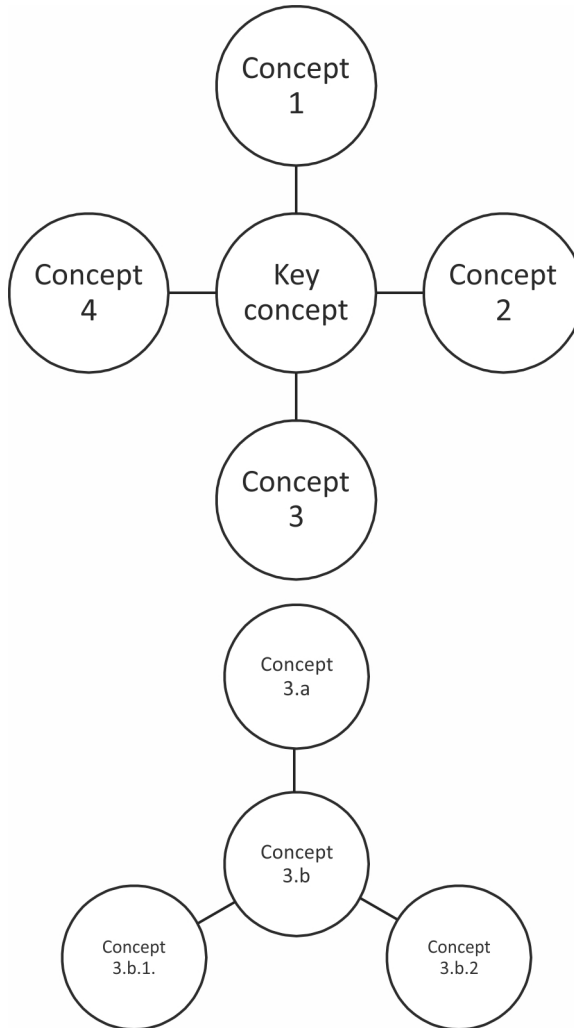
ANTICIPATORY READING	
Reading	
Pause reading 1	
<i>What do you think will happen next?</i>	
<i>On what basis do you conclude that?</i>	
Reading	
<i>What really happened?</i>	
Reading	
Pause reading 2	
<i>What do you think will happen next?</i>	
<i>On what basis do you conclude that?</i>	
Reading	
<i>What really happened?</i>	

6. **The KWL method** (I know - I want to know - I learned) is a method that encourages students to think about what they know (students' prior knowledge), what they want to know (students' motivation), and what they learned (synthesis of what they have learned). Students enter columns K and W in the table before they process the lesson content (e.g., by reading the text or listening to the teacher's oral presentation) and column L after they process the lesson content.

KWL		
I know	I want to know	I learned

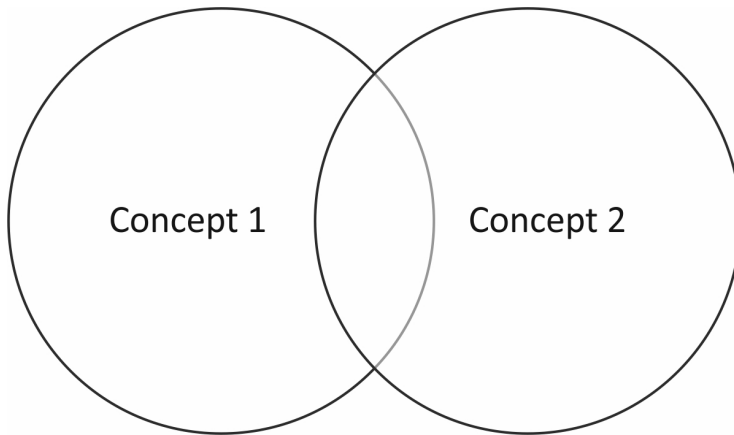
7. **Concepts in advance** is an active teaching method that evokes students' prior knowledge of the phenomenon being taught. At the beginning of the lesson, the teacher selects one or more concepts. The students' task is to guess (based on their prior knowledge of the concept/phenomenon) the lesson topic, the mutual relationship between each concept/phenomenon, the discussion questions the concept/phenomenon raises, etc. Students can work on the task in pairs or in groups. After working independently, students present their guesses, which are discussed in collaboration with the teacher and other students. At the end of the class, it is important to refer to the students' suggestions - separate suggestions that correspond to the content of the class, that represent a new approach to the concept/phenomenon, that do not correspond to the content of the class and represent incorrect information, etc.

8. **The Grape Bunches Method** is an active teaching method, that represents the so-called cognitive map. This teaching method tries to represent, structure and categorize the lesson content. Thus, the relationships between different phenomena within the lesson are presented. Students can work individually or through cooperative learning.



An example of the grape bunches

9. **The Venn diagram** is an active teaching method in which the lesson content is graphically represented by Venn diagrams. The relationship between two (or more) concepts/phenomena is determined by having students (a) determine the common elements of the two (or more) concepts/phenomena and record the content in overlapping diagrams, and (b) determine the elements by which two (or more) concepts/phenomena differ and record the content in non-overlapping diagrams.



A Venn diagram scheme for determining the relationship between two concepts/phenomena

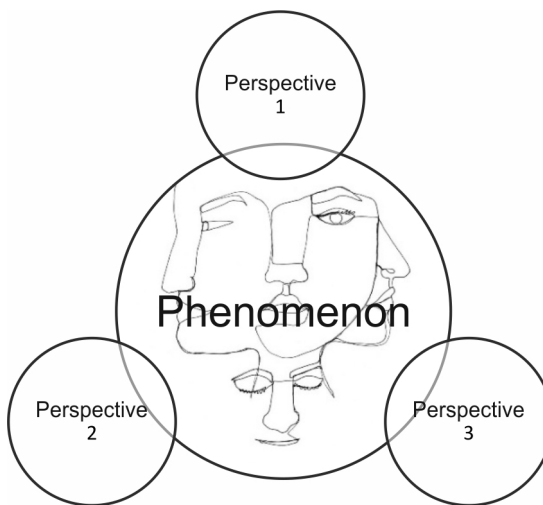
10. **Think and exchange** is an active teaching method associated with a cooperative form of work - work in pairs. It is a simple teaching method in which students participate by (a) thinking individually about a question related to the lesson content and then (b1) sharing ideas with a student in a pair or (b2) sharing an idea with a student in a pair who must actively listen and then paraphrase what was said, thus developing active listening skills.

11. **A written conversation** is a written communication between students in the form that the teacher gives a topic, which the students comment on in pairs on a common worksheet in silence. The method creates high concentration of students and an intensive form of interaction between them. A distinct advantage of this method is that it provides space and opportunity for equal engagement of students (especially those who find it more difficult to participate in oral discussions and conversations).

12. **Academic controversy** is an active teaching method that emphasises the topic of debate within the lesson content. Students respond to the chosen debate question (usually divided into groups) in a way that they argue or dispute a randomly chosen position (regardless of their own personal position

on the topic of discussion). This teaching method is extremely important for developing the ability to imagine possible situations and to look at phenomena from different perspectives

13. **From different angles** is an active teaching method in which the lesson content is presented from different perspectives. Students are shown a particular topic from a particular point of view. Then, students are given the task of presenting the topic from another perspective (or perspectives).



14. **Similar and different** is an active teaching method in which the lesson content is presented in such a way as to emphasise (a) the similarities of two (or more) concepts/phenomena, i.e., the common elements of the concepts/phenomena are emphasised; (b) the differences between two (or more) concepts/phenomena, i.e., specific elements are distinguished according to which the concepts/phenomena differ from each other. When using this teaching method, it is important that students establish the criteria by which they distinguish the similarities and differences of concepts/phenomena.

Concept 1		Concept 2	
Differences	Similarities	Difference	Criteria

Scheme similar and different

15. **Written discussion** is an active teaching method that represents the conduct of a discussion using individual work (although it can, of course, be adapted for pair or group work). The student selects (1) the topic of discussion on the template prepared for that purpose (called the discussion paper); (2) the discussion question; (3) essential information for the discussion; (4) reasoned response to the discussion question; (5) additional issues raised by the discussion; (6) commentary (written or pictorial). Written discussion promotes interactive learning, develops a high level of concentration and precision in forming opinions. Finally, it is important to note that written discussion, like written conversation, provides space and opportunity for equal student engagement (especially for those who find it more difficult to participate in oral discussion and conversation).

It is important to note that active teaching methods are also learning methods, since the learning process takes place in parallel with the teaching process. In this sense, each of the active teaching methods mentioned is also an active learning method.

ACTIVE ASSESSMENT METHODS

In light of the defined learning outcomes that a critical approach to content delivery seeks to achieve (different levels of student achievement from memorization to creativity), the assessment of these performances should include methods that go beyond the search for a correct answer. Consequently, the active assessment method dimension encompasses the process of evaluating student work with the distinctive use of different assessment methods (from objective-type tasks to oral and written essay assignments).

When teaching critical thinking, the teacher should focus not only on assessing what is learned, i.e., assessing the implementation of learning outcomes (called summative assessment), but also on what is called formative assessment²⁵, which refers to assessment for learning and assessment as learning. Assessment for learning assesses the current status of achievement of the specified learning outcomes without assigning grades in order to self-direct the learning process. Assessment as learning involves students in the assessment process through collaborative assessment, self-evaluation, and evaluation of instruction so that students develop critical thinking skills through active participation in the process. In conclusion, the dimension of active assessment methods includes an element of self-criticism, that is, the self-evaluation of teachers who have the task of developing the value of self-criticism, both their own and that of their students.

²⁵ For more information on the important topic of formative assessment, see the works of Dylan William, for example, his 2017 book *Embedded Formative Assessment: (Strategies for Classroom Assessment That Drives Student Engagement and Learning) (New Art and Science of Teaching)*, published by Solution Tree, Inc.

Examples of assessment methods that encourage the development of critical thinking

1. Tasks for developing critical thinking

EXAMPLES OF TASKS FOR DEVELOPING CRITICAL THINKING

Extract the main idea about X.

State the meaning of X.

Compare X and Y according to criterion C.

Classify X according to criterion C.

List the characteristics by which X and Y differ.

List the characteristics that make X and Y similar.

List the advantages of X.

List the disadvantages of X.

List ways in which the disadvantages of X can be overcome.

Set priorities.

Ask a discussion question about X.

Formulate your own position on the discussion question about X.

Defend the position that is X.

Make a decision about X.

Justify the decision X.

Make a new claim about X.

*Note: The above examples of tasks for developing critical thinking are general in nature and should be specified in light of the topic and subject matter of the lesson.

CRITICAL ACTION

Critical action implies various activities that individuals carry out in their environment which result from their critical reflection. In other words, critical action means carrying out activities after identifying and analysing problems, developing a vision, exploring and evaluating possible solutions, and finally deciding on the most appropriate solution to the problems identified. In the educational environment, it is about the educational activities that students carry out and that are guided and directed by teachers.

The starting point for critical action as a salient dimension of teaching for critical thinking should be found in Freire's reflection on the simultaneity of reflection and action and in the definition of critical thinking as an activity. Freire states:

I want to emphasize that my defense of practice is not about dividing practice into the first step of thinking and the next step of acting. Action and thinking happen simultaneously. However, a critical analysis of reality may reveal a particular form of action that is not feasible or appropriate at the moment. Therefore, one who thinks about the fact that a certain action is not feasible or appropriate (and therefore should be postponed or replaced) cannot be accused of inaction. Critical thinking is also an activity (Freire, 2002, pg. 80).

In addition to Freire's considerations, the rationale for including critical action as a prominent dimension of teaching for critical thinking should also be found in the extension of the idea of critical thinking offered by Barnett (1997). The author points out that the notion of critical thinking should be expanded to include the notion of critical being, which includes the development of critical self-reflection and critical action in addition to critical reflection on content. Critical action is defined as a form of critical ability that implies direct engagement with the world. Hints of the aforementioned idea can also be found in Lipman's (2003) emphasis on critical thinking as practical reasoning, which goes in the direction of developing the individual in the sense that he or she then becomes more reflective, logical, and reasonable, and thus acts in

his or her environment. Brookfield (2012) also calls it performing informative actions based on identifying assumptions, examining the truth and validity of those assumptions, and considering ideas and decisions from different perspectives, which is where he sees the importance of critical thinking.

Therefore, the critical action dimension includes identifying problems in the environment and community, developing a vision and proposing solutions related to the lesson content, selecting the best solution to the identified problems in the environment and community, and finally, implementing activities in the environment and community related to the lesson content. The following is an example of a form for applying critical action in the classroom.

CRITICAL ACTION
STEP 1
Identify a problem in your environment. Write down the identified problem in a form of a clear statement.
PROBLEM:
STEP 2
Offer possible solutions to the identified problem.
SOLUTION 1:
SOLUTION 2:
SOLUTION 3:

... *Continued*

<p>STEP 3</p> <p>Choose the best solution. Argument your choice.</p>
<p>THE CHOSEN SOLUTION:</p> <p>THIS SOLUTION HAS BEEN CHOSEN FOR THE FOLLOWING REASONS:</p> <p>1:</p> <p>2:</p>
<p>STEP 4</p> <p>Implement the chosen solution.</p>

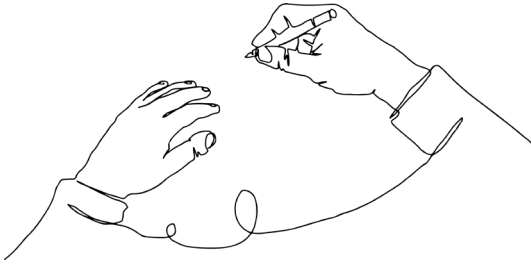
DEMOCRATIC CLASSROOM ATMOSPHERE

Asking challenging questions to students with well-developed dialogue in which students respect each other but also express disagreement with others has been shown to be an important element of teaching that contributes to the development of critical thinking (Shim and Waltzcak, 2012). It is often said that it is extremely important to provide students with an environment where wrong answers are allowed and the fear of giving a wrong answer is reduced because in this way space is created for the development of a variety of ideas that contribute to the development of critical thinking. The democratic classroom atmosphere dimension represents the dimension of teaching for critical thinking that includes actively involving all students in the teaching and learning process, fostering interaction and cooperative relationships, developing an atmosphere of tolerance, respect for the opinions

of others, and openness to new ideas and criticism, ensuring free, reasoned disagreement with the views of others, and providing a risk-free environment free of ridicule, belittling, and fear.

In conclusion, it should be noted that the dimension of a democratic classroom atmosphere is realized in practice to a considerable extent through the application of other dimensions of teaching for critical thinking. A critical approach to lesson content, the use of active teaching methods and cooperative work, the use of active assessment methods, and, finally, the application of critical action all require that all of this take place in an atmosphere of explicit interaction and participation of all subjects, as well as openness, dialogue and mutual respect.

Space for making notes



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Task solutions

Task 1.

Critical thinking is important because by developing this competence, individuals are able to distinguish correct from incorrect information and reliable from unreliable sources of information.

Task 2.

Critical thinking should not be developed because developing this competence challenges authority, and authority should not be challenged.

Task 3.

1. It is not an argument, it is a command.
2. It is not an argument, it is a condition.
3. It is not an argument, it is a statement.
4. It is not an argument in the formal sense, but a rhetorical question. With a rhetorical question, assertions are not directly stated. In this example, we see a case where the concluding statement The woman is incomplete is justified with the statement The woman is not a mother in the context of persuasion, so this example can be called an argument.
5. Argument - the concluding statement is observed Prisoners who try to escape from prison should not be punished, and the premise It is the basic human instinct to be free which tries to justify the said concluding statement.

Task 4.

Prisoners who try to break out of prison should not be punished because it is a basic human instinct to be free, and because punishment as negative reinforcement does not teach prisoners examples of positive behaviour.

Task 5.

There are several possible solutions. One of them is the Hungarian word *Megszentségéténgíthetelnetségeskedéseitekért*, which refers to the concept of the impossibility of forgiveness if the current behaviour continues.

Task 6.

1. Descriptive statement.
2. Descriptive statement.
3. Descriptive statement.
4. Normative statement.
5. Normative statement.
6. Normative statement.
7. Descriptive statement.

Task 7.

A parallelogram is a parallel quadrilateral.

A dog is a pet that barks.

An eighth note is a musical note that is one- eighth of a whole note.

Task 8.

GOOD OPINION		
CRITICAL THINKING	CRATIVE THINKING	IMAGINATION

Task 9.

Everything will be stolen either way // that belonged to us, we should unconditionally // surrender to our age (Dedić, 1993, pg. 32).

Since everything that belonged to us will be stolen either way, we should, therefore, unconditionally surrender to our age.

Since [*premise indicator*] everything that belonged to us will be stolen either way, we should, therefore [*conclusion indicator*] unconditionally surrender to our age.

Task 10.

There are several possible solutions, one of which may be, for example: Carrot is healthy because it is a vegetable.

Task 11.

There are several possible solutions, one of which may be, for example: How many times do I have to tell you?

Task 12.

1. Argument
2. Argument
3. Argument
4. Argument (but also explanation because it explains why he lies).
5. Argument
6. Explanation
7. Explanation
8. Explanation

9. Argument
10. Explanation
11. Explanation
12. Argument (but can also be interpreted as an explanation)²⁶
13. Explanation
14. Explanation
15. Argument
16. Explanation
17. Explanation
18. Explanation
19. Argument
20. Explanation (but can also be interpreted as an argument, pointing out that the author actually gives reasons why one should walk)

Task 13.

1. Inductive argument.
2. Deductive argument.

Task 14.

The above argument is not sound because the premise All birds are butterflies is false.

²⁶ It is important to note that it is not easy to determine whether it is an argument or an explanation for a particular set of statements taken out of context. A particular set of statements and the context in which it is uttered can sometimes be interpreted in different ways - as a context of discussion, but also as a context of explanation. The decisive criterion for distinguishing between an argument and an explanation is the answer to the question whether the uttered statements open a discussion or whether the intention is to convince the interlocutor(s) of a certain statement, opinion, attitude. If this question is answered in the affirmative, it can be concluded that the example is an argument.

Task 15.

All clouds taste sweet. All poetry collections are clouds. All poetry collections taste sweet.

Task 16.

There are several possible solutions, none of which will be singled out here.

Task 17.

There are several possible solutions, one of which can be - Research shows that only 10% of people do a job they love and it is clear that you will not do a job you love.

Task 18.

There are several possible solutions, one of which can be - a reliable source of information is Hrčak: a portal of Croatian scientific and professional journals that gathers Croatian scientific and professional journals with open access to papers in one place. It was established with the support of the Ministry of Science, Education and Sport (now Ministry of Science and Education).

From the reviews:

This handbook is original and different from the few other works that exist in the field of critical thinking in the Republic of Croatia, but also beyond. (...) I recommend publishing this handbook and making it available to as many teachers, professors and parents as possible. The handbook is extremely important in order to promote critical thinking in all parts of society.

Assistant professor Bruno Ćurko, PhD, Faculty of Humanities and Social Sciences in Split

The handbook provides an extremely valuable stimulus for developing critical thinking competency and teaching for critical thinking competency. It is aimed primarily at teachers (people involved in the teaching profession at all levels of formal and informal education, regardless of specific area of interest), but also at a broader audience interested in their own development and strengthening of critical thinking competencies. (...) In addition to key definitions that help the reader understand the argument (i.e., the core of critical thinking), the special value, as well as interest, of this chapter is the author's use of numerous graphic illustrations and tasks, as well as examples from poetry, prose, and newspaper columns that encourage the reader to read and analyse literary and other works in a new way, directly applying the knowledge gained in this handbook. The selection of examples and tasks chosen by the author is an excellent stimulus for reading in general, as well as for personal development of critical thinking competency.

Ivana Miočić, PhD, Faculty of Humanities and Social Sciences in Rijeka

The handbook is clearly written, its content fits the purpose, and it is well structured. Another advantage of the handbook is that it is full of examples that encourage the reader to apply what they have learned. My congratulations to the author!

Tanja Rupnik Vec, PhD, Slovenian Institute for Adult Education