Journal of Didactics of Philosophy, Vol. 4, 2020, 14-33 DOI: 10.46586/JDPh.2020.9570

TRAP-MIND-THEORY. PHILOSOPHIZING AS AN EDUCATIONAL PROCESS

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Received: 15 January 2020
Accepted: 2 March 2020

Abstract

The *TRAP-Mind-Theory* introduces a problem-oriented technique of philosophizing, based on the results of empirical research in cognitive psychology. Philosophizing is understood as the mental activity in which philosophical education is applied. In order to learn how to philosophize, students must perform the mental processes that philosophizing is all about. Those processes can be identified by making use of empirical findings of cognitive psychology. The observance of those findings leads to the *matrix of contemplation*, a model with three *areas* and four *levels*. People develop their thoughts to the next level by adding *reasons* (for *themselves*, *others* or *all* people) to the results of the current one. Reasons and considerations get tested by using the *5C-criteria* (*clarity, correlation, consistency, completeness, comparison*). By breaking down the complex process of philosophizing into these steps, philosophizing with children and grown-ups becomes possible, teachable, and evaluable.

Keywords: philosophizing, psychology, educational process, matrix, TRAP-Mind-Theory

1. Introduction

This paper is about philosophizing as a mental[1] activity and how to teach it. The idea is to develop a lucid model of the mental processes that form what I call the *DNA of philosophizing*. Like genetics can only explain those parts of human behavior that are independent of socialization and context, this model does not claim to depict everything a philosopher does while philosophizing, but only the 'stem cell' of philosophizing as an educational process.[2]

The model is based on some general assumptions about philosophical education (2.) and the results of empirical research in cognitive psychology (3.). I call this approach the *TRAP-Mind-Theory.*[3] It is constructed around the *matrix of contemplation*, a chart with three *areas* and four *levels* (4.). By explaining the different parts of the matrix, I will clarify the various ways in which

[1] I use the term 'mental' in contrast to 'social', 'dialogical', or 'communicational'. Philosophizing starts in the mind.

[2] Philosophizing as an educational process means philosophizing as a contribution to a profound reflection on the relationship between one's own self and a complex world (see Brosow 2020).

[3] So far, this approach has been internationally discussed at philosophical and interdisciplinary conferences and university courses in Ludwigsburg, Salzburg, Wien, Sevilla, and Chicago (see Brosow 2019a). In 2019, an empirical study in 17 classes at several German schools endorsed the assumption that the model works for philosophizing with students between the age of 10 and 18. The results of this study have yet to be published.

we make use of 'philosophizing' (as a term and activity) in schools, universities and social life (5.).

While the three *areas* of contemplation (*understanding, evaluating, acting*) define the kind of problem, that we are dealing with, the four *levels* of contemplation (*thinking, reflecting, arguing, philosophizing*) define the way, in which we are dealing with it.

Level: / *Area:*	**Thinking**	**Reflecting**	**Arguing**	**Philosophizing**
Understanding	Idea (description/association)	Concept (justified idea)	Definition (justified set of concepts)	Theory of Meaning (justified justification)
Evaluating	Opinion (believe/attitude)	Judgment (justified opinion)	Argumentation (justified set of judgments)	Theory of Quality (justified justification)
Acting	Impulse (motive)	Decision (justified impulse)	Stance/Praxis (justified set of decisions)	Theory of Behavior (justified justification)

Figure 1. The TRAP-Mind-Matrix: Areas, Levels, and Fields of Contemplation.

With the starting point in intuitive thinking, we develop our thoughts to the next level by adding *reasons* (for *ourselves*, *others* or *all* people) to the results of the current one.

Thinking	**Reflecting**		**Arguing**		**Philosophizing**	
Intuition	+ Reasons for *me*		+ Reasons for *others*		+ Reasons for *everybody*	
	before testing	*after* testing	*before* testing	*after* testing	*before* testing	*after* testing

Figure 2. The TRAP-Mind-Theory: Levels, Reasons, and Stages.

At each level, we get from the *untested* to the *tested* stage by using the *5C-criteria* (*clarity, correlation, consistency, completeness, comparison*) to divide reasons into good ones and bad ones.

5C-Criteria	**Reflecting**	**Arguing**	**Philosophizing**
Clarity	Can *you* say more clearly what *you* mean with…?	Can *we* say more clearly, what *he / she / this group* means with…?	Can *one* say more clearly, what … means?
Correlation	What do *you* think about how … correlates with …? Can *you* imagine that … and … correlate in a different way than *you* think?	What does *he / she / this group* think about how … correlates with …? Can *we* imagine that … and … correlate in a different way than *he / she / this group* thinks?	In what way does … correlate with …? Is it possible that … and … correlate in a different way?
Consistency	Is … consistent with what *you* say about …?	Is … consistent with what *he / she / this group* says about …?	Is … consistent with what can be said about …?
Completeness	Do *you* consider … to be completely described / explained? What do *you* want to add?	Does *he / she / this* group consider … to be completely described / explained? What may *he / she / they* want to add?	Is … completely described / explained? What could be added?
Comparison	If *you* compare … to …, what alternative seems to be better to *you*?	If *he / she / this group* compares … to …, what alternative may seem to be better to *him / her / them*?	If one compares … to …, what alternative seems to be better?

Figure 3. Questions to Apply the 5C-Criteria at Different Levels of Contemplation.

By breaking down the complex mental activity of philosophizing into these steps, the *TRAP-Mind-Theory* does justice to both, *philosophy* as an academic discipline and *philosophizing* as an educational process. Professional philosophers work with more complex reasons on more sophisticated problems, but at the end of the day, they perform the same *mental processes* as students in school or adults who engage in critical thinking[4] in everyday life.

In other papers, I already focused or will focus on teacher training and applications of the TRAP-Mind-Theory (see Brosow 2020). The main concern of *this* article is a proper understanding of the terms I use and of the architecture of the model as a whole. The second focus is on expanding the TRAP-Mind-*Matrix* as a mere *model* to a TRAP-Mind-*Theory* as a *technique* of philosophizing by empathizing and explaining its roots in subject didactics and cognitive psychology (see Brosow 2019b). The TRAP-Mind-Theory is an invitation to observe evidence-based research on how the mind works while philosophizing, teaching, and learning. Readers who are not interested in this theoretical background may skip the next two sections and continue reading in section 4.

2. Subject didactics of philosophy and ethics

Philosophy becomes practically useful through *philosophical education.*[5] As an academic discipline, philosophy does not primarily aim at practical efficacy, but knowledge. However, *if* philosophy is to be practically effective, it must be applied in a way that brings about an individual or social change. Such changes take place because social agents acquire philosophical education and act (at least partially) as philosophically educated persons.

Besides professional philosophers and educators, the target group of philosophical education is, on the one hand, the general public and, on the other hand, decision-makers from politics, science, and economy who have to deal with specific problems. Questions concerning philosophical education for the general public fall within the scope of subject didactics, especially (not exclusively) in schools and universities. Implementing the perspective of philosophical education in interdisciplinary and societal discourses is the responsibility of applied philosophy and applied ethics.

2.1 Philosophizing as Problem-Oriented Thinking

Philosophizing is the (complex) mental activity in which philosophical education is applied. Ekkehard Martens calls it the fourth *cultural technique* besides reading, writing, and arithmetic. (See Martens 2016.) Philosophizing in this sense is by no means limited to classes on philosophy or ethics but can be applied in various subjects, especially humanities, and also outside of educational institutions.

The activity of philosophizing is by its very nature *problem-oriented* (see Tiedemann 2017). Problems are not the same as topics or questions. Philosophizing requires a *topic* about which we philosophize. With regard to any topic, different *questions* can be asked. A question becomes a

[4] Philosophizing as an *educational process* is closer to *critical thinking* than it is to *public philosophy*.

[5] I use the term 'education' in the sense of the German term 'Bildung', not 'Erziehung', 'Ausbildung' or 'Training'.

problem if the correct answer is not easy to find and if we feel an urge to answer it. Teaching students a new technique is fruitless if they lack the desire to learn it (see Schank 2011, ch. 1).

Philosophizing is necessarily problem-oriented, but not necessarily problem-*solution*-oriented. We philosophize about the great questions of philosophy, although we know that no final answer will ever be found.[6] It is not decisive that a problem is solved, but that the activity of philosophizing enriches the way of thinking about it. This can, but does not always, contribute to the solution.

Philosophizing means to think about problems in a special way that is distinguishable from mere talking or from sharing individual opinions (see Ralla/Sinhart-Pallin 2015, ch. 2.4). Like in the case of reading, writing, and arithmetic, there has to be some kind of standard that tells us whether or not we are thinking about the given problem in a suitable way.

2.2 Processes, Competencies, and Performances

Modern subject didactics distinguish between *performance* and *competencies* (see Roeger 2019). In this context, performance means some kind of visible and therefore empirically measurable activity, while competencies are seen as necessary conditions to perform this activity on the side of the subject. Empirical research on the effectiveness of teaching and learning observes the performance to test the claim that a given set of competencies of students has increased (see Tiedemann 2011, ch. III.3).

However, philosophizing as a *mental process* (P) is neither a performance nor a competency in the sense mentioned above. The mental process of philosophizing has some necessary conditions in the subject in the form of competencies (CP). At the same time, it is a necessary (not sufficient) condition for empirically measurable performances (X) like sharing a philosophical thought with others.

Some competencies are necessary conditions for the mental process of philosophizing (CP). Other competencies (CX) are additional conditions for the empirically measurable performance (X) that may or may not follow the mental process.[7] In classes on philosophy or ethics, we are obliged to work on competencies of the first kind (CP). Working on competencies of the second kind (CX) must never replace, but only support the mental process of philosophizing. In both cases, working on competencies is not an end in itself or a means to the end of a visible performance (X), but a means to the end of allowing the mental process (P) to happen (see Roeger 2016, ch. 7).

2.3 Learning by Doing versus Performing for Assessment

When it comes to learning, there is no alternative to *learning by doing* (see Schank 2011, ch. 12). But what do students need to *do* in order to learn how to philosophize? The easy way for teachers is to make students do anything they can easily be motivated to do (like drawing a picture or talking in groups) and later claim that the students acquired the competencies to do it ("The students can draw a picture / increased their social competence.") and that this was the goal of their lesson all along.

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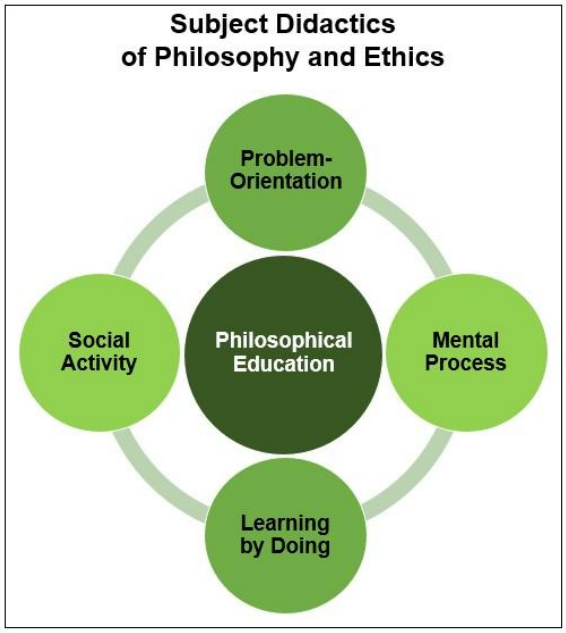
[6] Carsten Roeger calls this the "resistance dimension" of philosophical education (Roeger 2016, ch. 4.2).

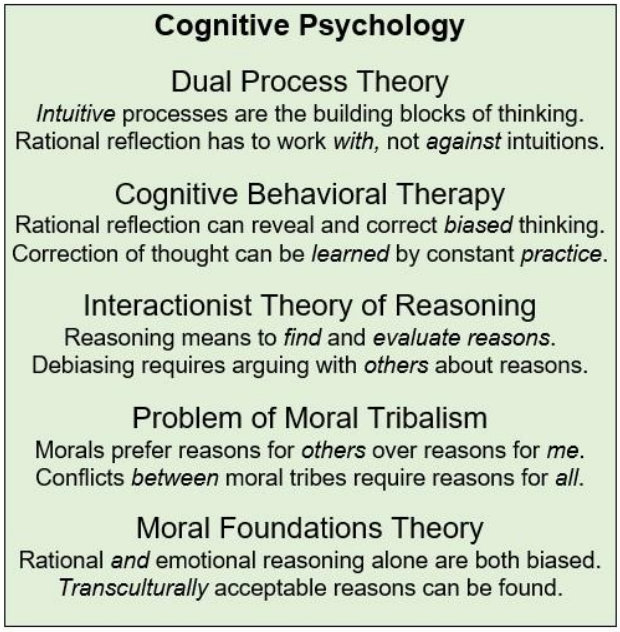
[7] Examples for CP are associating suitable ideas with a given word or using simple or more complex rules of logic. Examples for CX are being able to talk or write or being motivated to participate in a public conversation.

For subject didactics, however, 'learning by doing' is not about making students demonstrably active by doing just anything. It is about making them do what they need to do in order to learn the very problem-solving techniques that we are supposed to teach them (see Schank 2011, ch. 2). It is decisive to notice the difference between the *mental activity* that students need to engage in while philosophizing and the *perceptible performance* that is – occasionally – needed for their assessment.

Again, the analogy to reading is helpful here: People read (and practice reading) as soon as they perform the mental process that we call reading, although we cannot prove that they are reading before they choose to read something aloud. Worrying too much about perceptible performance and too little about the mental process leads to classes on communication – not to classes on philosophizing.

If we want to use 'learning by doing' in order to teach our students how to philosophize and if philosophizing is a set of mental processes, we have to make our students perform the mental processes that philosophizing is all about. It is great if students achieve additional competencies to talk and write about the results of this mental process. However, the primal question has to be: What kinds of *mental* processes do people perform while philosophizing?





Figures 4 & 5. Roots of the TRAP-Mind-Theory: Subject Didactics and Cognitive Psychology.

3. Cognitive Psychology

For centuries, philosophers claimed that philosophizing was all about thinking as rationally as possible. However, if rationality is the undisputed standard of thinking, a great part of human thinking does not match this standard. Empirical research shows, that rationality is not a constant characteristic of human judgment and decision making. It is an ability that people have at their disposal, but which they do not constantly make use of, and which, like every ability, is limited (see Ariely 2010). The activation of rational thinking comes with the costs of attention and effort

and is dependent on empirically researchable rules and boundary conditions (see Kahneman 2011, ch. 2).

The assumption that the rules and boundary conditions of thinking are empirically explorable is the cornerstone of cognitive psychology. Since philosophizing is a kind of problem-oriented thinking, it must be taken into account that philosophizing may also be empirically researchable (to a certain degree). So, philosophy has good reasons to take the results of empirical psychology seriously.[8] The knowledge and observance of the empirical findings of cognitive psychology allow the correction of thought in the sense of philosophical education in general and applied philosophy in particular.

3.1 Dual Process Theory

Our self that carries out our judgments appears to us as a unity, as if it was always the same reason that forms our judgments. However, according to the dual process theory, our judgments are based on different processes of thought that often contradict each other and do not work reliably in every area (see Beck 2014). Daniel Kahneman (see Kahneman, 2011, ch. 1) distinguishes:

- "system 1" (works intuitively, quickly, spontaneously, involuntarily and without effort)
- "system 2" (works carefully, slowly, is lazy and can only be activated with effort)

Since the activation of our rational 'system 2' requires attention and effort, we tend to rely on our intuitive 'system 1' even in situations when this leads us to suboptimal results (see Brosow 2019b). 'System 1' often interferes with questions that are intended for 'system 2'. It secretly replaces complex questions with more simple ones that are easier to answer by using *intuitive heuristics* instead of *rational reasoning* (see Kahneman 2011, ch. 9).

Despite these findings, Gerd Gigerenzer and others point out the considerable strengths of intuitive thinking. In contrast to rational type-2-processes, intuitive thinking can cope with a high degree of complexity without any loss of quality (see Kriesel/Roew 2017, ch. 3.4) or does justice to this complexity through simple heuristics (see Gigerenzer 2007, ch. 3). This applies at least to areas of regularity that give us (as a species or as individuals) the chance to develop a routine with recurring situations and that provide immediate feedback on the suitability of this routine (see Kahneman 2011, ch. 22). Outside these areas, our thinking is susceptible to *cognitive distortions*.

The TRAP-Mind-Theory follows the dual process theory in many ways. It appreciates intuitive type-1-processes as the basic building blocks of thinking and uses the criteria that determine our intuitive selection of associations (*clearness, correlation, consistency, completeness, comparison*) to distinguish between good and bad reasons at different levels of rational reasoning. Thinking is not measured against external truth theories or abstract concepts of rationality, but consistently against itself. Three distinct *areas of contemplation* make sure that problems of *understanding*, *evaluating* and *acting* do not get mixed up by interference of 'system 1'.

[8] At the same time, it is important to know the difference between serious research and 'neuromyths' about so-called 'brain-based learning' which we should *not* follow (see Agarwal/Bain 2018, ch. 7).

3.2 Cognitive Behavioral Therapy (CBT)

The idea of cognitive distortions also got influential in cognitive behavioral therapy (CBT). Developed in the 1960s and 70s by psychiatrists like Aaron Beck and David Burns, CBT is considered to be one of the most effective forms of therapy against depression and anxiety disorders today.

The approach is based on the assumption that depression and anxiety disorders are mainly caused by a distortion of thinking. Burns developed a method in which patients identify the negative feelings they experience during the day, the 'trigger' of each feeling and the exact thoughts that go through their heads in these situations. The patients analyze each negative thought by comparing it to a specific set of cognitive distortions and formulate a new, rational version of each thought, through which the distortion of their negative thought becomes clear. As a result, their belief in the negative, distorted thought tends to vanish, which often leads to an immediate brightening of their mood. Getting used to this rational response technique can contribute to a significant improvement of the patients' symptoms and ultimately lead to a complete and lasting recovery (see Burns 2006, ch. 6).

The ability to counter one's automatic thoughts with a rational response is practiced in role-playing. The therapist initially plays the role of the person whose automatic thoughts are influenced by certain cognitive distortions. Patients correct these thoughts by using their knowledge of the various forms of cognitive distortions. When patients cannot think of a decent response, they perform a role swap, so the therapist can lead the way. The most important distortions in the context of CBT are all-or-nothing thinking, overgeneralization, mental filter, disqualifying the positive, jumping to conclusions in the forms of mind-reading and fortune-telling, magnification/ minimization, emotional reasoning, should-statements, labeling, and personalization/blame (see Burns 1981, ch. 3).

From CBT, the TRAP-Mind-Theory picks up the idea of correcting distortions of intuitive thinking through conscious, rational reflection. The ability to correct one's own thoughts is trained dialogically with an experienced instructor. However, cognitive therapy focuses on the first-person perspective of the patient. The aim is not to solve or comprehend factual problems, but to improve the well-being of patients in the face of their problems. Cognitive therapy is patient-oriented, not problem-oriented. Philosophizing as a form of problem-oriented reflection is therefore different from therapy.

3.3 Interactionist Theory of Reasoning

Hugo Mercier and Dan Sperber discovered a problem of the dual process theory which they call the *Enigma of Reason*: Why did evolution give our species a biased 'superpower'? (See Mercier/Sperber 2017, ch. 1-2). If the main function of reasoning is creating true beliefs about ourselves and the world around us, why are we so bad in distinguishing between true beliefs and distorted thinking? If we do not need proper reasoning to survive and to reproduce, why do we have this superpower? If we do need it, why is this superpower so flawed?

The dual process theory divides the variety of mental processes into two groups which are classified as *intuitive* and *rational*. In contrast to that, Mercier and Sperber treat reasoning as just

another specialized *module of thinking* among many others (see Mercier/Sperber 2017, ch. 8). The area this module is specialized in, is the production and evaluation of *reasons*. Humans need reasons to justify their thoughts and actions in front of others and to evaluate the reasons given to them by other people.

In this social process, it is not a flaw, but an evolutionary asset to be very critical towards other people's reasons and to firmly rely on fast intuitions when it comes to bringing up reasons for our own position. We have to look at humans as social creatures if we want to understand the evolutionary benefits of our *myside bias*. Human societies seem to work quite effectively when all individuals come up with a variety of reasons for their own side and treat conflicting reasons presented to them by others with skepticism (see Mercier/Sperber 2017, ch. 11-12).

The TRAP-Mind-Theory agrees with this interactionist approach on the main function of reasoning, which is to *find* and *evaluate reasons*. To understand the role of reasoning in our lives, we need to expand the concept of reasoning as a private *reflection* to its social dimension of *arguing* with others about *justifications*. The correction of distorted thinking does not end with the rational reflection of one individual but must be repeated from a social point of view by also considering and evaluating the reasons of other people.

3.4 The Problem of Moral Tribalism

The psychologist, neuroscientist, and philosopher Joshua Greene transfers findings on automatic type-1-processes and rational type-2-processes to the inquiry of moral problems. He divides moral problems into two types: *'Me versus Us' problems* concern conflicts between the interests of the individual and the interests of the community; *'Us versus Them'' problems* concern conflicts between different communities with different value systems. According to Greene, our intuitive thinking (including 'moral sentiments') has evolutionarily proven to be efficient in dealing with problems of the first kind but is unfit for solving problems of the second kind (see Greene 2013, ch. 11).

Greene states that type-1-processes lead to heterogeneous 'tribal morals' which are based on culturally differing prioritizations of values. Despite their heterogeneity, these tribal morals provide equivalent solutions to 'Me versus Us' problems. However, according to Greene, moral problems in which these tribal morals conflict can only be solved by a purely rational meta-philosophy based on type-2-processes. For Greene, the rational solution for those cases is to ignore one's intuitions and to follow the rational 'correction' of thoughts offered by utilitarianism (see Greene 2013, ch. 12).

Of course, Greene is wrong to assume that utilitarianism provides the only possible meta-theory to overcome tribal morals. Nor is there any good reason (for non-Kantians) to unilaterally bind a universalist theory of morality to the criterion of 'apriority'. Not only purely rational theories but all theories that are based on impartial reasons that can be accepted by *all* human beings independently of culture and personal experiences can be taken into account to solve 'Us versus Them' problems. According to Gigerenzer, it is not always plausible or beneficial to resolve conflicts between type-1-processes and type-2-processes in the direction of rationality (see Gigerenzer

2007, ch. 3). So, the set of impartial reasons includes considerations a priori as well as considerations a posteriori and rational thoughts as well as generally shared (and unbiased) intuitions and emotional responses.

Nevertheless, the TRAP-Mind-Theory agrees with Greene's distinction between different types of moral (and also non-moral) problems and explains them in terms of different *levels of contemplation*. Problems of the kind 'Me versus Us' are conflicts between good reasons *for me* (at the level of *reflecting*) and good reasons *for others* (at the level of *arguing*). Problems of the kind 'Us versus Them' are conflicts within the level of *arguing* and can only be solved by moving on to the level of *philosophizing*, at which we deal with good reasons *for all human beings*. The important step to a mutual understanding is to focus on shared *reasons* instead of complete *theories*.

3.5 Moral Foundations Theory

According to the moral psychologist Jonathan Haidt, the isolated application of highly rational theories such as utilitarian or deontological ethics can be seen as just another distortion of (moral) judgment[9] (see Haidt 2012, ch. 6). Together with Greg Lukianoff, Haidt finds the opposite error in the current trend towards 'Safetyism'. "Three great untruths" (Haidt/Lukianoff 2018, ch. 1-3), whose individual and social genesis can be explained by various factors (Haidt/Lukianoff 2018, ch. 6-11), seem to affect and endanger an entire generation of students, at least in the USA:

- The Untruth of Fragility: What Doesn't Kill You Makes You Weaker.
- The Untruth of Emotional Reasoning: Always Trust Your Feelings.
- The Untruth of Us Versus Them: Life Is a Battle Between Good People and Evil People.

If neither rational (utilitarian or deontological) theories nor subjective emotions (emotional reasoning) provide an adequate basis for moral judgments, how can the standard for an undistorted moral judgment be determined? Haidt's response is to empirically explore the transcultural factors that lead people to their moral judgments. He identifies six pillars of what he considers to be an undistorted moral matrix (see Haidt 2012, ch. 12): 1. Care/Harm, 2. Liberty/Oppression, 3. Fairness/Cheating, 4. Loyalty/Betrayal, 5. Authority Subversion, 6. Sanctity/Degradation.

Since the majority of the world's population considers loyalty, authority, and sanctity to be morally relevant in addition to care, liberty, and justice, Haidt regards positions within 'WEIRD' (western, educated, industrialized, rich, and democratic) societies that tend to ignore these three factors as distorted. By doing so, Haidt replaces normativity with mere descriptions of common judgment.

Haidt also fails to see that the people he interviewed during his research use the term 'morals' in two different ways. Those who only consider care, liberty, and justice to be relevant for moral judgments represent a *universalist* theory of morality. Those who also emphasize group loyalty, respect for authorities and reverence for the sacred have a *social* definition of morality in mind.

[9] Haidt states that Bentham's utilitarianism and Kant's deontological ethics both possess the qualities of 'high systematization' and 'low empathy'. These qualities characterize what psychologists call the 'autistic spectrum'. So Haidt assigns Bentham and, to a lesser degree, Kant to the autistic spectrum (see Haidt 2012, 137-140).

By definition, universalist norms can be justified on a bigger scale than social norms, but that does not mean that social norms have no place at all in an undistorted moral matrix. A good theory of philosophizing has to distinguish between the social and the universalist approach on morality and to bring both of them together when it comes to applying both views to actual moral problems.

However, the TRAP-Mind-Theory learns from Haidt that philosophy needs to explain and justify the one-sidedness of almost every theory of morality within its scope. The theory also appreciates the idea of *empirical* research on transcultural reasons regarding specific kinds of problems.

4. The TRAP-Mind-Theory

Since cognitive distortions complicate both, the development and the application of philosophical theories, it is not sufficient for philosophers to be aware of the findings of empirical psychology while developing philosophical theories. We must also use these findings to develop a profound *theory of philosophizing* which enables philosophically educated persons to apply these theories appropriately.

4.1 One Theory of Philosophizing

The TRAP-Mind-Theory[10] treats philosophizing as an open, problem-oriented, educational process. The direction of any philosophical application discourse is determined by the respective target group, while philosophically educated persons who accompany this discourse are responsible for its depth and breadth. The character of philosophizing shows itself in the *process* of reflection, not in its outcome. If this process is to be initiated and optimized, empirical findings on human thinking must be the starting point. Still, philosophizing is not about intuitions, opinions, the number of their representatives or a consensus, but about the proper *justification* of intuitions and opinions.

Philosophizing always involves *collecting* and *evaluating* reasons. Collecting reasons includes finding *new* reasons and preserving *old* ones.[11] Evaluating reasons includes determining their *quality* and *reach*. The *level of contemplation* required for an adequate justification depends on the nature of the given problem. The nature of a problem depends, among other things, on the *area* to which it belongs. The aim of philosophizing is not objective 'truth' or abstract 'rationality', but the studious examination of the plausibility of all considerations presented. The *criteria* for plausibility are derived from the way our mind works on its most basic level of intuitive thinking.

4.2 Two Kinds of Problems (Philosophical, Non-Philosophical)

The problems we philosophize about can be *philosophical* or *non-philosophical*. For the purpose of this article, it is not necessary to define the nature of philosophical problems in great detail (see Barz 2019). It is sufficient to say, that a problem *is* a philosophical problem if its solution requires the activity of philosophizing (with regard to the *form* of philosophizing) and that it is *not* a

[10] There are, of course, other models with similar objectives, which I cannot discuss in greater detail at this point (see Bräuer 2014; Korthagen 2014; Aeppli/Lötscher 2016).

[11] This is why the TRAP-Mind-Theory appreciates *systematic* philosophy and the *history* of philosophy alike.

philosophical problem if its solution can also be found in a purely empirical or another subject-specific way.

The interesting and at the same time challenging thing about philosophical problems is, that by definition, we cannot double-check our solutions by using an alternative (e.g., empirical) standard. Philosophizing about philosophical problems means philosophizing without any safety net and therefore requires an additional set of skills, knowledge, and experience.

People who initiate and accompany philosophizing about *philosophical* problems must possess a high degree of philosophical education. In school, philosophizing about philosophical problems should be left to teachers of philosophy and ethics who have the proper training. Nevertheless, philosophizing about *non-philosophical* problems can be initiated by anyone who has expertise in regard to the topic they want to philosophize about. If this goes wrong or stays incomplete, other standards may help to optimize the solution found through philosophizing. The TRAP-Mind-Theory can be used for philosophizing about both, philosophical problems in classes on philosophy/ethics and non-philosophical problems in other subjects.

4.3 Three Areas (Understanding, Evaluating, Acting)

Since philosophizing is a problem-oriented process, it starts with the framing and categorization of a problem. The TRAP-Mind-Theory distinguishes problems of *understanding, evaluating*, and *acting*.

'Understanding' means the search for meaning. Meaning is not a part of the outside world, but a human construction. Understanding an experience or term means having a mental representation that does justice to the experience or term and at the same time fits to already given ideas. We are looking for a mental medium that closes the gap between thinking and the empirical or social world by connecting existing ideas with an object, experience or term. In this sense, all understanding is medial (see Rath 2014, ch. 1).

Understanding is about which ideas we associate with specific terms and for which ideas other terms are better suited. In this sense, one can strive to understand each concept and try to express each idea as clearly as possible. So far, there is no judgment about the existence or value of the phenomenon. We can also understand a consideration that we believe to be wrong. Two persons may have an identical concept of the term 'God' but disagree about whether God exists or not.

'Evaluating' as an *area of contemplation* is understood in a very broad sense, which includes truth values (true/false), judgments about existence or non-existence and probabilities, moral, aesthetic and other values. Every evaluation requires a *standard*. Usually, an object that meets one standard does not perform well compared to another.

All normative questions fall within the scope of evaluating, but always require conceptual clarification in the area of understanding and have a massive impact on the area of acting. Therefore, it is easy to find transitions from the area of evaluating to the other two areas. However, it is just as easy to get unintentionally and unnoticed from one area into another.

'Acting' concerns the relevance of different evaluations for actual behavior.[12] In the area of evaluating, it may have become clear that action one is morally more valuable than action two,

[12] Examples for problems of acting are 'Shall I take a short way or a more beautiful one?' or 'Should people go to

while action two is more useful to the agent or a specific group. The question of whether usefulness or morality is decisive in the given case concerns a new problem area. How people weigh different standards depends on what kind of person they want to be (here, now, and in regard to the given problem). This question hits the core of any educational process in the sense of reflecting on the relationship between one's own *self* and the *world* (see Roeger 2016, ch. 3.5).

The area of acting gains complexity by the fact that, in practice, people do not reliably treat a specific standard (e.g., morality) as more important than another (e.g., usefulness) at all times. The usual behavior will be that in some contexts, a person treats one standard as decisive, in others the other. Similar to understanding and evaluating, this process can take place intuitively and unquestioningly, or it can be intensively thought through with the claim to a plausible justification.

Naturally, there may be a gap between how people act and what they consider to be the right way of acting. Philosophizing about a problem of acting tells me what kind of person I want to be. However, my actions may prove that I am not this kind of person, yet. Philosophizing alone does not solve problems of motivation, but it may help to identify them.

Difficulties in solving problems in one area can often be resolved by clarifications in another. Distinguishing three *areas of contemplation* has several advantages compared to a binary classification (theoretical/practical; descriptive/normative; cognitive/emotional, etc.). The separation of *understanding* and *evaluating* protects against the unconscious replacement of one question by another e.g., by using affect heuristics (see Kahneman 2011, ch. 9). The benefits of separating *evaluating* and *acting* can be illustrated using the 'Heinz dilemma' (see Kohlberg 1981).

Understood as a problem of *evaluating*, the dilemma raises the following questions: 'What is the morally correct decision for Heinz? Is it right to steal the drug or to let die his wife?' The answer is supposed to either justify theft or inactivity in the face of the dying of a loved one. Thus, the standard of morality presents itself as something that everyone can bend into shape as they see fit.

Understood as a problem of *acting*, the following questions arise: 'Which value is more important to Heinz under the given circumstances? Compliance with applicable law or loyalty to his beloved wife? What kind of person does prioritize the first, what kind of person does prioritize the second? And what kind of person does Heinz choose to be?' This approach recognizes that there is no 'right' decision in a moral dilemma. Therefore, the 'solution' can only be to justify one's own decision as far as it is right and to take responsibility for it as far as it is wrong. However, other people (and we ourselves) will only be satisfied with our decision if our justification appears to be as solid as possible.

4.4 Four Levels (Thinking, Reflecting, Arguing, Philosophizing)

The four *levels of contemplation* give the TRAP-Mind-Theory its name. They determine the way we think about a problem. At each level, we adopt a new perspective. The transition takes place by adding *reasons* of a new kind to our thoughts. Intuitive *thinking* occurs involuntarily and is not

work while they are ill?'. Not knowing how to do something means not knowing what can be an *effective* means to an end; therefore, it is a problem of evaluating. Not being able to do something one wants to do is neither.

controllable. When *reflecting,* I ask for reasons *for myself* to think as I do, when *arguing,* I ask for reasons *for (concrete) others* and when *philosophizing,* I ask for reasons *for all people*.

The TRAP-Mind-Theory has a functionalistic understanding of reasons. A reason is not a consideration of its own kind. Any thought that is deliberately used to support or attack a consideration is considered a reason by the TRAP-Mind-Theory. Reasons can come from all *levels of contemplation*. However, their genesis can always be traced back to the lowest, most intuitive level.

'Thinking' is intuitive, automatic, and effortless. This level refers to association processes with empirically researchable laws and boundary conditions. In the language of cognitive psychology, this level corresponds to 'system 1' or 'type-1-processes' (see Kahneman 2011; Kriesel/Roew 2017). Intuitive thinking provides the building blocks for all higher levels. Since no reasons are involved at this level, it is only indirectly accessible to philosophizing (through habituation).

The TRAP-Mind-Theory recognizes the value of intuitive thinking for the execution of life. However, intuition is a private matter. That is why intuitions are never accepted in philosophical dialogues without justification and never criticized or praised directly, but only by an evaluation of their justification. The aim is not to think less often intuitively and more often rationally in everyday life. *If*, however, rational thinking is used, it should be done in an undistorted and correct manner.

'Reflecting' is deliberate, conscious, requires attention, and involves effort. At this level, intuitive associations become the object of reflection by consciously searching for reasons *for me* that speak for or against the appropriateness of the association. For their part, these reasons can still be mere associations. The source of the associated reasons lies in *my own* experiences. Reflecting initially covers both, good and bad reasons because their examination is still to be carried out at this level.

'Arguing' is dialogical, social and consensus-oriented, but at the same time still partisan. The level of arguing is reached as soon as I *claim* that (concrete) others have reasons *for their part* to approve of a consideration. This is a step from the private into the social world, which requires empathy and the adoption of roles. We are looking for reasons that (more or less concrete) *other people* accept measured by *their* experiences. As with reflection, this search can reveal both, good and bad reasons.

'Philosophizing', after all, means systematic, impartial, general, and objective contemplation. By philosophizing, I *claim* that the consideration put forward, its justification and the standard by which this justification is measured can in principle be accepted *by all (impartial) human beings*. The considerations in question can be linked to general premises. However, individual and group-specific experiences and preconditions are consequently neglected in favor of impartiality.

The four *levels of contemplation* build on each other, but must not be misunderstood as a step-by-step model in the sense of Lawrence Kohlberg (see Kohlberg 1981). High levels do not equal high quality of judgment. The goal is not to reach the highest level as quickly as possible or to stay at this level exclusively. The level that is decisive to solve a problem depends on the nature of the problem.

Philosophizing as a level of contemplation refers to mental work on those reasons which *every human being* can accept as (good) reasons regardless of individual experiences or premises. However, good reasons that are acceptable to *all* human beings are only a subset of the larger set of good reasons. Reasons, which are only good measured by the experiences of individuals (*reflecting*) or groups (*arguing*), do not belong to the level of *philosophizing*. But they are still *good* reasons.

People solve some problems by discovering a concept that represents progress in knowledge only for themselves ("For *me*, happiness is..."). Other problems require a consensus of a limited group of people, but this consensus does not have to extend beyond this group ("For *us*, friendship/partnership means..."). Advancing to abstract philosophical questions usually requires *systematic* considerations on the last level ("Morality/justice/truth is..."). Since universalization always comes with decontextualization, it is often advisable to consider reasons from all three rational levels.

This has implications for subject didactics, as well. Very few teachers can always rely on their intuitive thinking. So, good *teacher training* has to take place on all three rational levels (see Concepción 2018). Teachers may have good reasons *for themselves* to choose a specific teaching style. They should also consider the reasons *for others* in order to adapt their style to their institution and their students. However, *subject didactics* as an academic discipline will focus on reasons *for all*. So, a good paper on 'best practice' is not written at the level of reflecting or arguing, but reaches the level of philosophizing. Instead of personal experiences or a specific cultural or political background, it uses evidence that can be accepted by the scientific community independently of individual or group-specific preferences.

The three *areas* and four *levels* of the TRAP-Mind-Matrix result in twelve *fields of contemplation*. Considerations within these fields have their own names. *Ideas, opinions*, and *impulses* are basic blocks of thinking. Since the process of philosophizing is about evaluating justifications, they are not discussed in isolation, but only in the form of *concepts, judgments*, and *decisions,* etc. These can be discussed by determining the *quality* and *reach* of their justification.

Level:	**Thinking** *(intuitive, automatic, effortless)*		**Reflecting** *(deliberate, taxing, private)*		**Arguing** *(partisan, social)*		**Philosophizing** *(impartial, general)*	
Claim:	p treats x as a and considers treating x as b.		p *believes* that *p* has (good) reasons to treat x as c.		p *believes* that *others* (q) have (good) reasons to agree, when p treats x as d.		p *believes* that *everyone* has (good) reasons to accept p's reasons for d as good reasons.	
Stage:	freely associated examples, not tested *(a, b)* →	*intuitively* tested by *clarity correlation consistency completeness comparison*	reasons *for a and b* added but not yet tested, *(y, z)* →	*willingly* tested by *5C-criteria (r)* & chosen among alternatives *(c)*	reasons *for c* added but not yet tested, *(y, z)* →	*dialogically* tested by *5C-criteria (s)* & chosen among alternatives *(d)*	reasons *for r, s, d* added but not yet tested, *(y, z)* →	*systematically* tested by *5C-criteria (t)* & chosen among alternatives *(t')*
↓ *Area* ↓								
Understanding x	**Idea** (description / association)		**Concept** (justified idea)		**Definition** (justified set of concepts)		**Theory of Meaning** (justified justification)	
Evaluating x	**Opinion** (believe / attitude)		**Judgment** (justified opinion)		**Argumentation** (justified set of judgments)		**Theory of Quality** (justified justification)	
Acting on x	**Impulse** (motive)		**Decision** (justified impulse)		**Stance / Praxis** (justified set of decisions)		**Theory of Behavior** (justified justification)	

4.5 Five Criteria for Examining Reasons and Considerations (5C-Criteria)

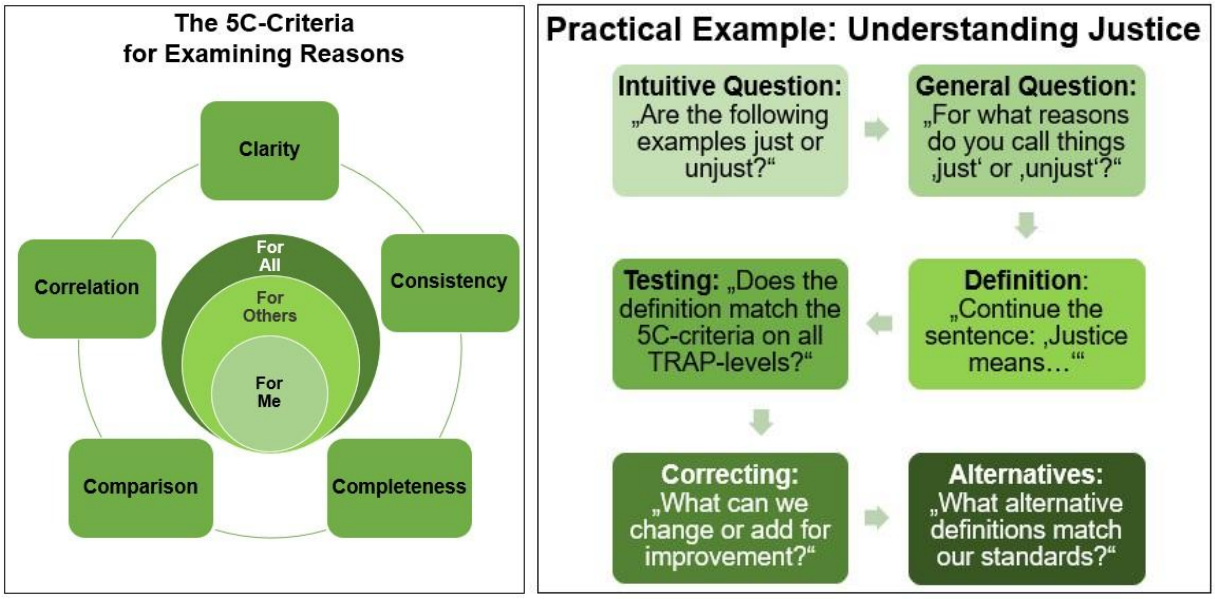
The mental work that has to be done at each *level of contemplation* consists in distinguishing between good and bad reasons and in formulating considerations which, as far as possible, follow only good reasons and no bad ones. The examination of reasons and considerations for their quality is not based on abstract criteria such as truth, logic or rationality, but on the *5C-criteria: clarity, correlation, consistency, completeness*, and *comparison*. These criteria remain the same at all levels. Since unconscious *thinking* already falls back on these criteria, they form the 'stem cell' of plausibility.

Reasons and considerations that have not been checked yet are still located on the *untested stage* of the respective level. Reasons that pass the *5C-test* move on to the *tested stage*. Although these criteria are applied equally at all levels, the same reason may turn out to be good at one level but bad at another. What seems clear to *me* does not have to be clear to *others*. What appears to be consistent with the experiences of a *specific group* does not have to be compatible with the experiences of *all people*. Sometimes, we do not overrate the reach of a reason but underestimate it. A good reason for *me* can be a good reason for *others* as well and even (perhaps in a slightly different framing) a good reason for *all* people. Therefore, the quality *and* reach of all relevant reasons must be tested.

The 5C-criteria explain why philosophical theories are never uncontroversial and why philosophical problems stay often unsolved. Usually, philosophizing about philosophical problems leads to the point where *consistency* and *completeness* conflict. Either we follow all good reasons at the cost of inconsistency, or we find a consistent theory at the cost of incompleteness of the good reasons we consider. Even where complete and consistent theories can be found at the level of philosophizing, good reasons may still be disregarded at lower levels.

The TRAP-Mind-Theory points out that the forming of philosophical *theories* usually prioritizes the criterion of *consistency*. On the other hand, the practical *application* of philosophical theories is a matter of taking *all* good reasons into account. These may be taken from different philosophical theories, as long as their justifications are good and seem acceptable to all people who willingly enter the level of philosophizing by abstracting from subjective and culture-dependent premises.

The controversy of completeness and consistency cannot be resolved by *philosophical theory*, but only by *philosophical education*. Philosophically educated persons follow as many good reasons as possible and take responsibility for those good reasons which they do not follow. It is not through the development of theories, but through the production of philosophically educated individuals that the process of philosophizing reaches its actual purpose and its individual end.



Figures 7 & 8. Examining Reasons and Example for Applying the TRAP-Mind-Theory.

4.6 Six Questions for Applying the TRAP-Mind-Theory

Going into detail on practical applications of the TRAP-Mind-Matrix requires an article of its own (see Brosow 2020). However, instructors can use a checklist (see Gawande 2010) of six questions in order to prepare *themselves* for philosophizing about philosophical or non-philosophical problems:

1. What is the relevant *problem* for the respective *target group*?
2. To which *area* (*understanding, evaluating, acting*) does the problem belong?
3. At what *level* (*thinking, reflecting, arguing, philosophizing*) can it primarily be solved?
4. What are the various *reasons* for different *intuitive* solutions the *group* may come up with?
5. What *quality* (*5C-criteria*) and *reach* (*TRAP-level*) does each reason (*claim* to) have?
6. What follows for the problem, if one follows *all the good* and *none of the bad* reasons?

In contrast to the process of professional *preparation*, philosophizing itself must not feel like going through a checklist but should be designed as an open and flexible process (see Roeger 2016, ch. 8). Instructors should not aim at leading the participants along a certain path. Their job is to know the whole territory, to make the participants pay attention to the most important landmarks, hazards, and roads, but to let them choose their own route until they know their way around the area.[13] The TRAP-Mind-Matrix is a *model*, not a *method*. This model can be applied in various ways and combined with several theories and models of subject didactics, as long as its roots in cognitive science are respected.

The process may start with specific questions that aim at the area of *evaluating* and can be answered by each participant using *intuitive thinking*. (“Is the following case *just* or *unjust*?

[13] I adopt this metaphor from Anke Thyen (see Thyen 2016).

Why?") The participants realize that they already have a concept (of justice) that they apply in everyday life. The intuitive responses should be written down individually. There is neither a sharing of mere opinions nor a public vote of any kind. Everybody keeps their intuitions private.

Then a more general question aiming at the area of *understanding* is asked, which can be answered by *reflecting* on the notes from the first questions, but focusses on *reasons* instead of *opinions*. ("For what reasons do we call an act *just* or *unjust*?") The collected reasons are used to form a *concept*. ("How can we continue the sentence: Justice means…") The concept then gets tested using the *5C-criteria.*[14] During the test, instructors may refer to the intuitive questions from earlier on.

The thoughts the group comes up with do not only get *collected* but are consequently *tested* in regard to their *quality*, *claim,* and actual *reach*. If a claim does not match the actual reach of a thought, either the thought or the claim has to be changed. Instructors initiate the test of reasons and considerations by asking questions, *not* by answering them. They work with thoughts and terms the *participants* bring up. This guarantees that the group does not get overwhelmed by external thoughts.

The instructor sticks to the tested concept until the test shows that it needs to be replaced, corrected or extended. Then a new version of the concept gets formulated by the group and is tested as well until the group and the instructor are satisfied with the outcome. After that, a related problem of other areas (*evaluating* or *acting*) may be discussed by making use of the new *definition*. Additional materials (texts, pictures, other media) may be introduced – and also get tested using the 5C-criteria.

The main goal is to make *each* participant perform the *mental* process of philosophizing. In addition to that, the participants may also philosophize with each other. The well-educated instructor shows the group how philosophizing works by asking questions that lead the discussion from mere intuitions to the *field of contemplation* that is most promising for a solution of the given problem. After some time, the group may need less and less assistance of this kind. But especially in the beginning, it is the instructor who bears responsibility for the group so nobody gets lost in the process.

5. Form, Content, and Level of Philosophizing

What does the process of philosophizing have to do with philosophy as an academic discipline? To what extent can young children and people with mental disabilities or other impairments philosophize? Does philosophizing exclusively belong in classes on philosophy or ethics, or is it a transdisciplinary educational principle? In which sense does philosophizing take place in interdisciplinary application discourses? How can it be implemented in various forms of media?

According to the TRAP-Mind-Theory, one can 'philosophize' with regard to the *form*, *content*, or *level* of philosophizing. Philosophizing with regard to the *form* means *demanding reasons* for one's own and others' considerations and *examining* them for their *quality* and *reach*. Philosophizing with regard to the *content* means applying this form to *philosophical* problems.

[14] Usually, it won't be necessary to use all of the 5C-criteria to test every reason or concept. Experienced instructors tend to see which criteria seem to be most promising for further improvement of the discussion.

Philosophizing with regard to the *level* means looking for considerations, reasons, and standards that get accepted by *all* people.[15]

The TRAP-Mind-Theory considers the *form* as a necessary and sufficient condition to speak of 'philosophizing'. Pedagogical approaches that cannot do justice to the form should not be called 'philosophizing'. It is already proven that philosophizing regarding the *form* is possible with children and many people with special needs or disabilities (see Ralla/Sinhart-Pallin 2015, ch. 2.4).

Philosophizing about *philosophical content* should take place in classes on philosophy/ethics, which are led by philosophically well-educated teachers. But, philosophizing as a transdisciplinary educational principle can be applied to a wide variety of problems, provided that the teacher has the appropriate specialist expertise. In both cases, the *level* of philosophizing can be reached at times in addition to the *form* (and the *content*) as a sign of the quality and depth of the discourse.

Academic philosophy includes philosophizing with regard to the *form* but is consciously limited to the *content* of philosophical problems *and* the *level* of philosophizing. Applied philosophy/ ethics can also constructively introduce the *form* and *level* of philosophizing into interdisciplinary, scientific discourses on *non-philosophical* problems. However, by limiting itself exclusively to the level of philosophizing, the academic world does not make use of philosophizing as an *educational process*, but as a means to gather knowledge. In addition to the level of philosophizing, we must also include the levels of arguing and reflecting, to make contributions to social (non-scientific) discourses. "Philosophy," "lifeworld," and "science" can be a perfect match (see Bussmann 2019).

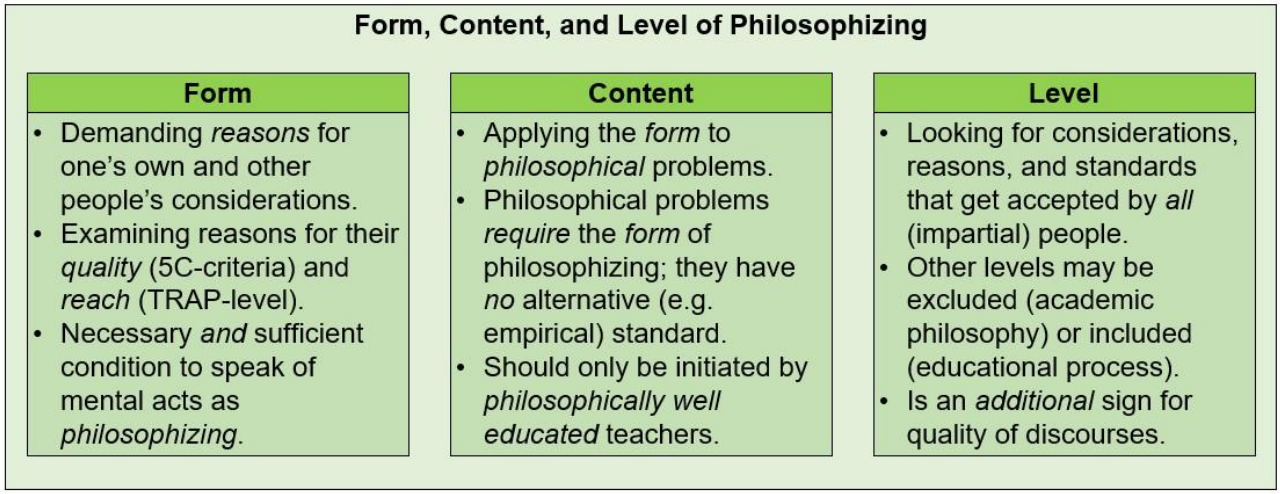


Figure 9. The TRAP-Mind-Theory: Form, Content, and Level of Philosophizing.

By definition, anyone who is philosophically educated is able to philosophize with regard to the *form, content*, and *level* of philosophizing, at least about selected problems. Getting used to philosophizing contributes to the development of a philosophical attitude. This attitude arises in individuals who experience philosophizing as an essential part of their human *and* individual

[15] Disagreements about the possibility of philosophizing with children, public philosophy, etc. seem to lack this distinction. Every reader may use the term 'philosophizing' with regard to one, two or all three of these criteria; as long as it is clear in which meaning it is used and as long as others are allowed to use the term in alternative ways.

nature. The philosophical attitude includes an appreciation of problem-related collecting and testing of reasons, motivated by the insight into the deceptive security of cognitive ease (see Kahneman 2011, ch. 5). It promotes the willingness to mental effort and the intuitive feeling for situations in which this effort is worthwhile.[16]

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[16] A poster with most of the figures of this article can be downloaded at https://doi.org/10.13140/RG.2.2.29108.19844.

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How to cite this article

Brosow, Frank (2020): TRAP-Mind-Theory. Philosophizing as an Educational Process,
Journal of Didactics of Philosophy 4(1), 14-33. DOI: 10.46586/JDPh.2020.9570.