

Working on Concepts as an Element of Communication and Starting Point for research-based Learning in Higher Education

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1. Output and overview

Conceptual clarification work as an examination of things – whether these are accessible extraspectively or introspectively – and which aims at understanding and grasping their nature, is constitutive for being human. Even babies actively open up their world and find their way in it by groping, comparing, trying out, identifying and also thinking further (for example, in counterfactual thinking from about 18 months) and relating to it and other people (Gopnik, 2009). Conceptual work, in this sense, is a process that starts with the respective subjects and is shaped by the respective individual and historical-cultural life situations. Conceptual work becomes a social negotiation process when it comes to cooperative coexistence and mutual understanding. Language plays an important role in this process because it makes it possible to summarize concepts with one or a few words. At this point, various challenges can arise, as will be explained in the second section of the paper. How can we deal with these challenges in educational courses without overwhelming students? Our thesis is, that the starting point for such didactic ideas should be the individual (subjective) views of the world. From this vantage point, a view of manifold other worlds of understanding can be opened up, and intersubjective worlds of understanding can be created (Section 3). What this can look like and what concrete challenges it can mean for students and lecturers will then be discussed using the example of a seminar design for students of the elementary school

subject »Sachunterricht«¹. Through digitization, opportunities and limitations of cross-university and multilingual seminar designs are shown (Section 4).

The article concludes with a summary of some basic theses on the relevance of conceptual work as an educational responsibility, and with the concept of clarification-promoting conceptual work for science, education, and democratization advocated here (Section 5).

2. Locating in the diversity of different understandings of »concept« and on the relevance of conceptual work

There are extensive discussions about what was and is understood by a »concept« and how relations between individual and socially shared concepts, their respective objects/things/referents and their designations/words/terms are to be thought of. These discussions include the question of whether to distinguish between individual and socially shared terms at all – as is done in this text – or not. For insight into the diversity of different understandings, see, for example, the articles on the keyword »concept« in the Philosophical Dictionary of Philosophy (Ritter 1971) and the keynote article on »concept« by Eric Margolis and Stephen Laurence in the Stanford Encyclopedia of Philosophy (2019). Barbara C. Malt et al., following a series of quotations on different understandings of »concept«, state: »It is an unsatisfactory situation when researchers believe that something is fundamental to mental life, but they cannot articulate exactly what that something is« (2015, 314).

Sue Ellen Wright (2003) describes how problems with the different understandings of the term »concept« are potentiated by multilingualism. We cannot address this diversity of positions and the fundamental philosophical issues related to them, such as the idealism-realism problem, within the scope of this article. It is fundamental to our understanding of the term »concept« that we start from the thinking subject and not, for example, from a human-independent »platonic« conceptual world. In this respect, our understanding can be called »constructivist«. In this view, conceptual understanding does not have to be language based, even though language is a particularly socially relevant learning medium. We thus distance ourselves from positions that equate

1 »Sachunterricht« is an elementary school subject in Germany that includes »science« and »social studies«.

thinking with speaking, as well as from those that hold that language has nothing to do with thinking (for more details on this spectrum of different views on the relation between thinking and speaking, see Dörner, 2006).

Medin et al. describe the close connection between concept, language and culture: »Concepts matter, and [...] so does the language we use to describe them and the cultural practices in which we embed them« (2015, 349). They substantiate this thesis by reference to the example of biological category formation related to »Humans, Nonhuman Animals, Plants, and the Hierarchical Relations among Living Things« (2015, 350). In comparative cultural studies, they show, for example, that the understanding of »animal« as a possible generic term for humans may or may not vary depending on the respective culture. In the first case, there is an understanding of »Animal« as Animal-inclusive and in the second case, as Animal-contrastive. If both meanings reflect valid usage in a particular society, such as in Western English-speaking countries, the word is regarded as »polysemous«. By contrast, for example, the Indonesian word for »Animal« is understood only as Animal-contrastive (Medin et al., 2015).

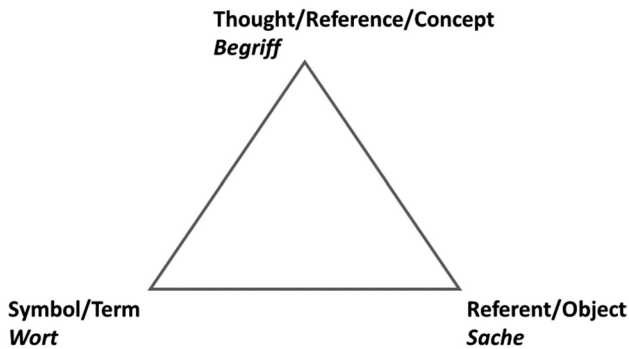
In other studies – to give another example – European American and Menominee children and adults (fishermen) in Wisconsin are compared with each other concerning their respective conceptual ideas about nature. And although »groups had comparable knowledge bases, including ecological knowledge, there were substantial differences in how the knowledge was organized. European American experts favoured a taxonomic organization, and Menominee experts an ecological organization« (2015, 369). This difference was also found among children (ibid.). Cultural orientations can also be found among the scientists themselves: »While indigenous sciences focus on interspecies relations and mutual dependency – supporting perceptions of cooperation and socialization among nonhuman species – Western sciences have a tradition of focusing on individual species and fitness – assuming competition among species« (2015, 370).

As far as education is concerned, we further emphasize in our understanding of *concept* the idea of subjectivity developing in an intersubjectivity-enabling direction. In doing so, we are concerned with the critical-reflective involvement of subjects (Albers & Blanck, 2022) as a process of expanding and changing their previous understandings, whereby the end of the path is not predetermined (Albers & Blanck, 2021). What matters most is scientific and intersubjective involvement.

We distinguish (following the principle of the Semiotic Triangle, as propounded, for example, by Ogden and Richards (1923)) between concepts as

mental representations (meanings/concepts) that refer to abstract or concrete things (objects), and words (expressions/terms) that can be used to refer to what has been conceptualized. Even though, as Wright (2003) explains, there are now more complex modes of representation than the semiotic triangle, the latter still represents the fundamental relationship between concept, word, and object. Since misunderstandings due to translations have repeatedly occurred here (Wright, 2003), we use both English and German terms in the representation of the Semiotic Triangle, the terms being often assigned to the corners in this way:

Illustration 1: Semiotic Triangle



(inspired by Odgen & Richards (1923))

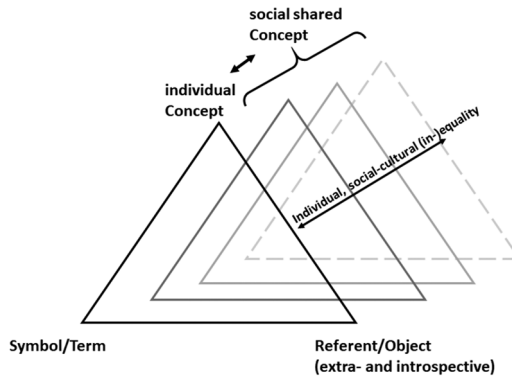
A well-known example can illustrate the complicated relationship between words, concepts, and objects from literature (e.g., Wright, 2003). The planet Venus (object) was initially comprehended in two different ways: in conceptual understanding 1, by which it was linguistically referred to as the »morning star« (word), and through conceptual understanding 2, whereby it was expressed linguistically as the »evening star«. One possessed two terms and two abstract concepts, each referring to the one object (seen from later knowledge) conceptually, so that it was constructed as two objects. Only with understanding 3, called »Venus«, could the other two conceptualizations be identified as two ways of construing the same object that could be reconciled with one another. This example is particularly interesting because it involves

mutually compatible perspectives rather than mutually exclusive ones.² Moreover, the terms offer us further mutually exclusive meanings. Thus, we also use »morning star« to refer to a medieval striking weapon and »Venus« to refer to the Roman goddess of love. A horizon of possible misunderstandings, which would have to be comprehensively elaborated further, may be indicated by the following three questions: Do we look at an object/issue from different or common perspectives? Are the understandings represented compatible or incompatible? Does one use equal or unequal terms to denote the respective understanding? On the basis of combinatorial logic alone, these three questions yield eight possible sources of misunderstanding. A knowledge of this scope of potential misunderstandings is especially relevant for communication between people with dissimilar life-world references.

Central to the idea of conceptual work presented here is the principle of taking examples from the everyday world of the subjects as a starting-point. The subjective understandings described here are further developed in confrontations with alternative understandings. The goal is that as further understanding develops, the individual should find themselves presented with a spectrum of alternative understandings to be deliberated. This leads to a development of subjectivity in a direction conducive to intersubjectivity. The relationship between individual and socially shared conceptual understanding could be represented in the terms of the semiotic triangle as follows:

2 On the distinction between diversity as perspectivity and controversiality, especially alternativity, see Blanck Vocilka (i. pr.).

Illustration 2: The relationship between individual and socially shared conceptual understanding



(author's own representation)

The knowledge of alternative understandings of the particular terms used is beneficial to clarification in several ways:

- Knowledge of alternative understandings opens up horizons of understanding for other people with their possibly different understandings. Examples are helpful here, as they can clarify understanding across different life worlds (including different languages). Suppose the following case: Someone explains their understanding of an object/issue using a variety of examples and citing alternative understandings, for deliberation. This provides a far broader basis for others to contribute their respective understandings and to enter into a joint clarification process than if someone presents a single understanding alone. Such conceptual work can also be described as »deliberation-oriented«.³

3 For the concept of a deliberation orientation, see e.g. Blanck 2004 or 2021. In the concept of a deliberation orientation, the alternatives considered appropriate to a particular problem are regarded as deliberate validity conditions for assessing the quality of a solution. Considered alternatives are to be preserved in this function as a deliberate validity condition. Transferred to conceptual explanations and conceptual clarification work, this means being able to use the knowledge of alternative understandings to advertise one's own understanding, as well as to be able to identify and comprehend other understandings. Given a critically reflective knowledge of non-knowledge, deliberation orientation assumes that further improvements of deliberations are possible which may lead to changes in the respective conceptualizations. Uncritical

- If this knowledge of alternative understandings is accompanied by a critical-reflective awareness of its limitations, one maintains the awareness of further possible alternative understandings. In dealing with others, this can make one more cautious about not interpreting or overwhelming them with one's ideas projectively. Also, this reflective knowledge increases one's willingness to correct one's understanding, if necessary, when there are further alternative interpretations appropriate to the given situation. Conversely, a basic knowledge of possible alternative constructions is a good step towards preventing oneself being overwhelmed by others' conceptual worlds. Asking for alternative understandings to be considered and deliberated upon creates an emancipatory potential that can protect subjectivity from being overwhelmed.
- This kind of conceptual work also opens up a critical and reflective approach to guidelines, e.g. scientific research on the subject matter. Even if it makes sense to adopt proven conceptual explanations from others, the direct integration of subjectivity means, fundamentally, that these proven conceptual explanations must also allow themselves to be located within a horizon of possible understandings. This horizon is conceived from the beginning as a changeable one. In this respect, such conceptual work can also be described as »research-oriented« or »scientific«.

In the sense outlined above, it is inherent in conceptual work that it aims at intersubjective understanding and clarification. Thus such conceptual work also gains significance for a clarification-promoting approach to controversies and conflicts which are essential for developing living democracies. In this context, as indicated above, a critical-reflective knowledge of the possibilities of misunderstanding is particularly relevant. We see the furthering of deliberation-oriented conceptual clarification skills as an educational opportunity that – according to our thesis – can make a significant contribution to democratization.

overidentification with a particular understanding is replaced in a deliberation orientation through an identity of engagement without losing the ability of critical distancing (Blanck 2016), which is open for further developmental steps, including necessary corrections.

3. Conceptual work as an educational opportunity

As has already been explained, words are used differently depending on individual and socially shared understanding. The example of *work* will illustrate this.

Work seems to be focused on and socially present as gainful employment. In Germany, for example, the state refers to unemployment as the condition of a person not being gainfully employed (Sozialgesetzbuch (Social Security Code; SGB) III §16 (1)). Especially from an educational point of view (e.g. in science and social studies) a modern concept of *work* should also include care work such as housework, family work and volunteer work (see Rieber, Queisser & Häußler, 2023 and Gläser, 2004). However, a research study on the professional knowledge of elementary school teachers regarding the meaning of the term »gainful employment« (Albers, 2014) showed that elementary school teachers might also have an understanding of *work* as gainful employment. In the study, two teachers stated that children whose parents were affected by unemployment were unaware of the advantages of work or had a negative attitude towards it (ibid.). It is then also problematic that prejudices are voiced against the unemployed and their children.

The individual use of a word seems to be important in conceptual work with prospective teachers (Albers, 2019). In addition to a scientific examination of the term »concept« and the work on selected concepts (see Section 2), as well as an educational examination of conceptual work with regard to school practice (see Section 4), it can also be about person-related work (Albers, 2014). This then means promoting the development of subjectivity in the students during the conceptual clarification work, which can also be understood as a critical-reflective examination of one's own understanding of concepts as an *educational opportunity*.

How far we can speak here of *educational* processes is a question answered in quite different ways in educational theory.⁴ The English term »education« can be translated into German as both »Erziehung« and »Bildung«. Those two different terms are accompanied by overlapping concepts which leads to intensive discussions in the German-speaking part of the world. *Bildung* goes beyond the acquisition or development of specific competencies – which would

4 In the following, we refer to the description of a »transformational education« according to Hans-Christoph Koller, who further developed the concept of Rainer Kokemohr (see Koller, 2018, for more details).

rather correspond to *Erziehung*. *Bildung* means the reflective interaction of self and world (Humboldt 1960–81, Volume I, 64). The trigger for an educational process understood in this way is a moment of perceived intrapersonal irritation (Koller, 2018). According to Koller, such irritation can be described as an experience of »foreignness«. For a more precise definition of such experiences, he invokes Bernhard Waldenfels' concept of »the alien«. This »alien« is not only unknown to us (i.e. not only »the other«), but also calls ourselves into question (Waldenfels, 1997 and 2011).

In terms of conceptual work as an educational process, this means directing attention to moments of irritation and one's experiences of foreignness instigated by them, opening up to them and enduring them. Transcultural concepts could stimulate particular individual ways of dealing with one's alienness.

4. Conceptual work as a constitutive element of the educational methodology of Sachunterricht in higher education

The elementary school teacher qualification in Germany consists of a bachelor's and master's degree program as well as a practical phase, which is part of the qualification process and usually lasts 18 months. *Sachunterricht* is the third core subject in elementary school, along with Mathematics and German, and is accordingly chosen as a teaching subject by many students in teacher-training.

4.1 Presentation of our seminar conception

The importance of conceptual clarification work with prospective teachers has already been pointed out in the previous section using the example of the concept of work, which is understood in its simplest form as gainful employment. At this point, our seminar conception, which understands conceptual work as a constitutive element of teaching *Sachunterricht* in university and elementary school, will be explained in more detail.⁵ Conceptual work is a process of in-depth questioning and researching that students must first discover and develop for themselves. If students and future teachers deal with the respective content in a conceptually clarifying way and prepare topics accordingly, a

5 The conception of the seminar with reference to the teaching methodology of »Sachunterricht« was also presented in Rieber & Vocilka (i. pr.).

motivating questioning and researching teaching can be initiated, e.g. using philosophical conversations. This assumption is the basis of our seminar conception. The seminar conception itself consists of two parts. The students' scientific examination of a socially relevant concept takes place in the first part. The second part deals with the educational challenge of transferring central conceptual aspects into a short story sequence as a starting point for philosophical conversations with primary school children. The seminar is aimed at students of elementary education in the master's program at the Ludwigsburg University of Education. It is designed as a bi-weekly four-hour seminar with a workload of four ECTS, corresponding to 120 hours.

After an understanding of the various versions of concepts and an examination of the relevance of conceptual clarification work as already described (Section 2), the students apply what they have learned by dealing with a selected socially relevant concept. Throughout the first part of the seminar, and thus also in the first sessions and the periods in between, these discussions are focused on. For this purpose, fixed small groups, each consisting of three students, are formed to deal with a socially relevant term chosen by them for the entire semester, taking a multidisciplinary approach after formulating their initial core ideas based on literature. They identify and shape structures in the concepts, can narrow them down or expand them, discover and sustain controversies, and develop core ideas, core questions, and core statements. They search for their positionings and can justify or question them. Half-hour poster presentations by the respective groups in the seminar context serve as both seminar conclusion and (partial) examination performance. The students' work focuses on the step-by-step development of core statements that describe the socially relevant concept selected by the respective small groups. This developmental work takes place over the course of the seminar in a three-step process of core questions, core ideas, and core statements. First, the student groups pose core questions about their concept. This helps to clarify the concept by being formulated in an open-ended way. Core ideas are less well-honed and thought-out precursors of core statements and drafts of core statements. Core statements describe a particular concept in a concise, pointed, and summarizing manner.

Several core statements are required to describe and explain a concept. The individual statements can focus on essential sub-aspects; only the sum of all core statements comprehensively describes the concept to be clarified. The literature-based discussion of the concept goes into the core statements. Also, (scientific, intra- and interdisciplinary) controversies and ambivalences should

be reflected in the core statements or the explanations. The core statements are then presented in the agreed form and phrasing on the poster as the currently valid finding.

Following this scientific clarification of concepts in a teaching seminar, (future) teachers are intended to meet the challenge of guiding conceptual work in elementary school. According to Köhnlein, conceptual work appears as a complex, socially guided process of composition, discrimination, structuring, and abstraction, which often only succeeds in a continuing series of approximations (Köhnlein, 2012). What lends itself well to this purpose is joint reflection in the context of philosophical discussion intended to be stimulated by a story about the concept to be clarified. Stories are what Köhnlein calls crystallization points for the initiation of concept work. This kind of joint story-based philosophizing can also be a way for students to expand or change their thinking (e.g. Michalik, 2018). Thus, writing a story sequence that challenges students to think about and engage with the concept thematized in the story forms the centerpiece of the second part of the seminar. This story is presented in writing by the seminar participants, together with the associated objectives and incorporated core statements, and defended in a colloquium. The development of a story as a starting point for example-based conceptual work in elementary school seems to us to be particularly suitable since examples, as we have already presented them as an educational approach to conceptual clarification, can be integrated into the writing of a story developed into one. By creating a context, a story provides emotional access to the core of the concept. This can enable school-age readers to personally identify with the thematic issues, especially if there are protagonists in the story who are the same age as elementary students and move in their life worlds. At the same time, the story also makes it possible to distance oneself from the protagonists. Distancing and objectification are essential so that the content does not overwhelm and intimidate the students. Both identification and distancing can make stories a motivating approach to conceptual work. The fact that stories are able to illustrate abstract concepts through concreteness can also contribute to this. This leads to a materialization of the symbolic, so to speak. Stories can contribute to low-threshold access to the discussion of concepts through references to the world of life, and in doing so provide learning occasions through irritation or conflict concerning *familiar* things. In this way »zones of proximal development« (following Vygotsky 1987) are opened up to students. Examples of criteria for a story providing opportunities for philosophical deliberation of a concept are, in our view, the following: A (philosophical) story should make the content of

core statements previously developed available for an addressee-oriented discussion; the story should provoke readers into asking *real* (in the sense of meaningful) questions, should open wider horizons of thought, and should offer different ways of thinking about the concept relevant to the story. Students should be stimulated into engaging with problematic or conflicting elements of the story without having recourse to stigmatizations, stereotypes, and clichés.

This seminar was designed and conducted in the summer semester of 2019 as an attendance-only seminar. Due to the corona pandemic, the seminar was then held as an online class for four semesters starting in the summer semester of 2020, testing and using both asynchronous and synchronous formats. For our seminar, too, »the pandemic acted as a catalyst for a transformation process« (Schultz-Pernice et al., 2021, 36). Thus, in the summer semester of 2022, the further developed seminar contained both face-to-face and synchronous online sessions, with the face-to-face meetings comprising approximately 60% of the seminar time. In the face-to-face sessions at the university, the focus was on joint content discussion and in-depth work in the individual concept groups. The now scarcer face-to-face time was used more specifically for teaching competencies and attitudes in areas where face-to-face teaching has its strengths, such as developing new research questions or promoting professional identity development (Schultz-Pernice et al., 2021). The online format was used mainly for exchange across groups. With about 90 participating students, we could easily and quickly open numerous virtual sub-spaces within the main virtual seminar space, where a few concept groups presented their posters and engaged in a critical-constructive exchange about them. At the same time, split screens allowed an equally good view of the presented poster content. Feedback to the group was not only possible orally, but also in writing via chat. The same applied to the stories developed; here, the virtual space offered flexible possibilities that university facilities could not provide in a comparable form, especially for large groups of students. Digital options support students and can lead to the relief of problems caused by large-group physical presence. For example, students first record example-based discussions of their conceptual groups in audio recordings, post a sequence of about fifteen minutes from these discussions in the digital seminar course and invite the other participants to think about and discuss them. This type of asynchronous discussion in online forums is explained in more detail in the following section.

4.2 Opportunities and challenges of a cross-university and multilingual digital seminar design

Digitization opens up opportunities to apply the seminar concept described in section 4.1 to multilingual teams of students and university lecturers who are dispersed over a wide geographical area. Such a conception can make (extended) transformative educational processes possible, as students from different locations, even across national borders, can bring a large and varied spectrum of experience to bear on the seminar, together with more widely ranging critical perspectives and additional issues. In this collaboration and reflection, meanings of concepts can be constructed, explored, resolved, and affirmed. Such a cross-locational seminar is made possible by various synchronous and asynchronous online teaching and learning settings, which will be explored below in relation to conceptual work.

With regard to more in-depth conceptual work, it should be noted that in cross-university or cross-locational collaboration, even more perspectives and concepts can be included, or knowledge from more diverse sources can be drawn upon for the multidisciplinary discussions, as, for example, Chen and Sun (2016) also point out. Particularly challenging but also fruitful can be the comparison on a meta-level focusing on different languages (cf. Section 2)

The asynchronous digital formats, particularly, can be conducive to intensive conceptual work. Individuals can work intensively on the terms in asynchronous discussions or reflect on whether the texts are factually concise enough. Individuals can read the respective contributions repeatedly, refer back to them again and again, and post their individual ideas at their own pace: »In addition, because individuals have to explicitly express their thoughts in writing, the very process of writing in itself helps them to carefully construct their ideas (Vonderwell, 2003), as well as encourages reflection which helps promote higher level learning such as analysis, synthesis, and evaluation (Newman et al. 1997)« (Hew, Cheung & Ng, 2010, 572).

At the same time, texts written in asynchronous online forums, for example, retain a certain dialogic character and are more personal and informal than other forms of academic writing. Thus, a kind of community of practice can be established among the participating students and faculty, who strive for a precise type of dialogic communication that stimulates or presupposes reflection. Ideas can be critically analyzed and complex meanings negotiated to establish a culture of reflection. As a result, students are naturally guided toward a sys-

tematic construction of meaning that involves planning, structuring, and facilitating discourse toward a clear goal, such as a poster (cf. Section 4.1)

Furthermore, an advantage of such online teaching-learning settings is that, in addition to the better opportunities for accessing and collaborating with people around the world, participation can be higher, as even less accessible target-audience groups, such as shy people and minorities, can be reached and are likely to get more involved in online settings than in face-to-face classes, as pointed out by e.g., Lamnek & Krell (2016) and Sun & Chen (2016). This is particularly significant for cross-university and cross-locational seminars. Moreover, students perceive online discussions as fairer and more democratic than discussions in a physical seminar setting (Fernandez Polo & Varela, 2017). However, online discussions are perceived by students in asynchronous settings as less collaborative and more individualistic, and the sense of belonging also decreases compared with that in synchronous online discussions. Students rate these as more focused, more motivating, and with a stronger sense of belonging within the group (Fabríz, 2021). The sense of belonging in online learning and teaching settings should be given special attention, as numerous studies have shown a strong correlation between social interaction, a sense of community, and their role in success in online learning (Sun & Chen, 2016; Fabríz, 2021). Especially in cross-locational or cross-university settings, the social context poses a significant challenge because students do not know each other, and language or other barriers can make social interaction additionally difficult. Several measures are available to help deal with these challenges. For example, blended learning formats in which students can first get to know each other on-site prove to be very helpful (Zahn, Rack & Paneth, 2021), but promoting individual responsibilities and formulating group goals (Johnson & Johnson, 1994) are also highly conducive practical measures.

5. Conceptual work as an educational task

As the preceding explanations have made clear, the conceptual work proposed here focuses on a deliberation-oriented unfolding of subjectivity which is neither overridden by objectivity, nor conceived of as its replacement. Instead, this emphasis on subjectivity aims to open up possible alternative understandings of terms to be clarified in each case, so that individuals can further develop and locate themselves with their understandings and knowledge within a horizon

of possible alternative interpretations. In this way a development of subjectivity towards intersubjectivity takes place. This is achieved by embedding one's understanding in the knowledge of alternative understandings. This process is accompanied by a critical-reflective awareness of the limitations of the ability to grasp alternative understandings and a critical-reflective knowledge of non-knowledge, which promotes a research (scientific) attitude. There is an openness to other understandings, which can also lead to possible distancing from one's previous understanding. The prior understanding does not thereby become worthless. It now belongs to the horizon of possible interpretations and is part of the context of justification for the new understanding. Furthermore, it can continue to inform processes of opinion and viewpoint formation and contribute to techniques of reasoning and argument.

Alternative-conscious conceptual work goes hand in hand with an emancipatory potential for the individual and enlightenment or clarification possibilities when dealing with controversies,

especially alternatives. In our view, this makes conceptual work conceived in this way an educational and research desideratum. Education, research orientation/science and democratization are brought into a mutually reinforcing context in a special way. For student teachers, no matter what type of school they are training for or subjects they are studying, this potential seems to us to be particularly relevant. As part of their educational mission, they can promote science and democratization from the very beginning in their future professional field through appropriate conceptual.

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