

## **Knowledge integration in students after transdisciplinary communication with the oldest old**

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### ***Abstract***

*How do students integrate their cognitive insights gained from dialogues with the oldest old persons? The lecture provides insight into an exploratory evaluation of self-reflexions written by students, which they prepared after an intergenerational seminar. The acquisition of the experience and world view of the oldest old and the strategies of adopting perspectives play a central role. In all reflexions, the experience of the old dialogue partner is consistently addressed. Students also wrote about the process of integrating new knowledge. We can interpret it as a form of development of consciousness where spontaneity in dialogue, well-known as positive feedback, plays a central role.*

**Keywords:** *Dialogue, Reflexion, Consciousness, Spontaneity, Intergenerativity, Transdisciplinary communication*

### **1. Introduction**

The dialogue between young and old is a proven means of developing awareness of future issues, uncovering what is hidden or bringing to light what is undiscovered within humans. One student describes this in her reflexion as follows:

“I also learned a lot about myself. Above all, I realized that I know more than I previously believed and that I can think more deeply if I put my mind to it. I learned that my knowledge goes beyond what I was taught in educational institutions. And this knowledge is at least as valuable.” (Student reflexion, WS 23/24)

Why is this so? Real dialogue represents a transdisciplinary basic situation whose cognitive potential extends not only into various theoretical structures but also into epistemic spheres such as wisdom, hope or aesthetics as well as expanding consciousness.

In the seminar Ethics of Generations, young students and older people, mostly the oldest old, have been meeting for seven years to theoretically reflect on current ethical and social issues and let their own thoughts flow into a dialogue or conversation. Topics in recent years have focused on the good life, the question of what human beings are, care and concern for the world and utopias for the third millennium. In this format, multi- and interdisciplinary texts are read, some from world literature, and from these works the lecturer derives questions that, in the spirit of Kant, “are given up by the nature of reason itself, but which it cannot answer, because they exceed all the capacity of human reason” (Kant, 1998: 5). These questions crystallize in so-called ethical anchor questions, sometimes also Socratic questions, which are included in the dialogues. These are not questions of knowledge but questions about the ethical background of what has been written. Since such questions can shift, expand or transform perspectives, students think about them for days and incorporate them into conversations with family or friends.

Especially when young and old engage in a dyadic conversation that can evolve into a real dialogue over time, implicit knowledge is retrieved (Polanyi, 1985). Sometimes this tacit knowledge is then linked to language, but we assume that the reason is, that the individually accented right words can be found on the basis of human openness. Because the word is only there in the answer it finds (Levinas, 2020).

This is pure research-oriented teaching that seeks truth, where the research cycle goes hand in hand with the learning cycle (Wildt, 2009). Immersion in the inner world through dialogue is associated with immersion in transdisciplinary practice, which leads to new questions and research (Fig. 1). As we understand it, truth always remains tentative.

The special thing about this seminar is that the dialogues are audio transcribed and different dialogic phenomena such as symmetries, parallelisms, rules and types of the dialogues are reflected back to the participants in the following session so that their own linguistic thinking can be recognized. (see Ehret, 2022) The individual results are then tied back to scientific theories, which gives insight to your own thinking. For example, the following dialogic sequence was linked to Karl Jaspers' Psychology of World Views (Jaspers, 2019).

TA (stud.): And everyone has their own view of the world. If we consider everyone's ethos, we would never reach a consensus.

RE (82): If you convey terminology to every single person, you would gain approval. How do I communicate this to all people? And teach ethos in schools, ethos is actually present everywhere. I see ethos as a foundation for life. Ethos is also about trust.

TA: Even if you don't want to understand each other, you should still listen to gain a complete picture. (...) Life is a process where learning is the only constant.

RE: It is an individual matter when you apply the global ethos to yourself.”

But that's not all. The example also demonstrates how research-oriented dialogue and learning are interconnected. The synergistic arguments are understood as a learning process for both interlocutors. After listening to and processing the dialogue partner's statements and arguments, both individuals can be proven to have made learning progress, because both relate their individual learning progress to the general.

Moreover, due to the uniqueness of each person in this world, new forms of dialogue are constantly emerging. In real dialogue (with positive, proactive feedback), there is always either formal or substantive agreement and further development, as illustrated in the example of TS's second response.

## 2. Explanation of the seminar and its principles

In the first semester it was still strongly oriented towards gerontological and psychological content, but the topic and method developed further from year to year. This was a natural, inherent, almost evolutionary process. A crucial turning point occurred when the seminar was conducted using the dialogic method, where the dialogues were audio transcribed and analyzed ethically and hermeneutically. The dialogical utterances were then reflected back to the participants. The fascination of the reflection of a real dialogue is a cybernetic process that almost creates knowledge and catapults it into consciousness (for example, see MR's self-reflexion below). By true dialogue, we understand, in Buber's sense, the development of a linguistic “between” between two people as thinking in being that opens up to language (Buber, 1994). Before the word unfolds, an opening to the other in the sense of responsibility is necessary by giving the other a full hearing; then the word is there in the answer, according to Levinas (2020). In such an interaction with others, something comes out that I did not know or understand before and to which I can react spontaneously or argumentatively.

SP (85): The contact arises through an omnipresent topic. Normally there is a gradient (strong-weak, old-young), but here is a topic that is attractive to everyone and not a gradient. The idea is that you get to know the different world.

TI (student): I also find it fascinating that there is a common, complementary direction.

This allows us to approach deep thinking by drawing on the sediments of implicit and tacit knowledge.

“Real dialogue is a basic ethical situation in which truth and wisdom are produced through language. This happens in a creative personal space between two people. The products that arise in this dialogical existence can be understood and made qualitatively measurable. When young and old enter into a dialogue, the course is significantly accelerated.” (Ehret, 2023). By truth we always only mean tentatively,

subjectively uncovered and intersubjective confirmed truth; by wisdom we mean proximity to the general maxims based on subjective experience.

In addition to the dialogic principle, the seminar consists of two further principles, cybernetic feedback and self-reflexion. The feedback, i.e. the selected reproduction of evaluated dialogue passages in the following session, repeatedly amazed both the young students and the older ones. Please take a look at the following self-reflexion of a young student's experience with an old man:

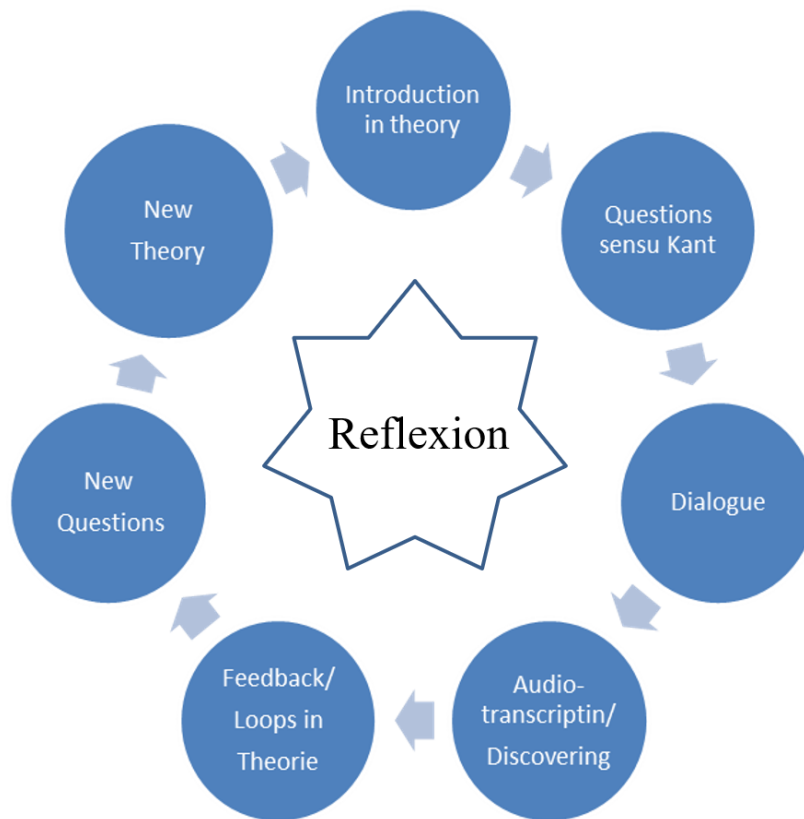
“Mr. S described in an extremely apt way the astonishing and even strange potential of dialogue to unconsciously evoke profound thoughts and to substantiate them: Sometimes you're surprised at yourself when talking about a topic that's lengthened because you remember things you've saved but never discussed. It's a phenomenon for me that the mind gives you reserves to expand, deepen, extend and justify the conversation. Then, when I see it on the screen, it can't believe that I said that. This feeling was expressed during the dialogues and in the reviews of the past sessions. It became particularly evident when, looking back at the written and transcribed conversation excerpts, one found passages of one's own dialogue that were almost literary (although spoken) and characterized by so-called common words and phrases. This represents a type of self-experience that is also based on the principle of wonder and admiration, given the “deep structure and effect that a word has on our soul, our conscience” (RM, student, about Mr. S, 90).

These products are then linked back to scientific theories based on the lecturer's experience. Entirely impressed by their “theoretical awareness” in the sense of a man-as-a-scientist (Kelly, 1986), motivation for science is awakened in the students.

The third principle is self-reflexion. At the end of the semester, in addition to the dialogues and presentations, it represents an examination. In it, the reflected path to knowledge takes place across three dimensions (Huber, 2017), which are to be synthesized: scientific theory, one's own self along with one's reason and the other,

the old person with a view to the common good. By including very old, committed seminar participants, transdisciplinarity is created. The dialogue itself also represents a transdisciplinary basic situation. In self-reflexion, questions about old age, intergenerativity, thinking and language in dialogue, dialogue and transcendence, development of consciousness and the future of intergenerational teaching are addressed.

The didactics of the seminar is illustrated in Fig.1. Starting with the introduction to the theory, the first questions are raised that, in the Kantian sense, reason cannot initially clarify or can only clarify with great difficulty. Through dialogue, original and creative solutions and answers can be found in the realm of the I and You, amidst the exuberance of spirits. The experienced researcher will uncover these treasures of implicit knowledge in the transcription and share them with the students as feedback in the next lesson. This process leads to wonder, potential insight, new questions and ideally, new theory.



**Figure 1:** Didactics of the Dialogical Seminar Ethics of Generations (Ehret)

### **3. The importance of reflexion**

While reflections focus on external processes, environments and external objects, reflexions are responsible for subjective processes and internal thinking. There is a self-observing subject that discovers the relationship between development and reflexivity.

“Reflexive thinking requires a translation between implicit and explicit knowledge, especially if the results of reflexions are to be explicitly communicated. This would require the additional intellectual effort to make explicit what is implicit knowledge. This intellectual effort develops the required translational skills, which in turn, are necessary for trans-disciplinary communication.” (Callaos, 2022). Even in Humboldt’s work we find that man “seeks to grasp as much of the world as possible and to connect it with himself as closely as he can and relate everything to his inner education.” (Humboldt 1794/1960) Therefore, in his thinking he seeks wholeness, coherence and ultimate purposes, which he can only fathom through deep reflexion.

“If education through science is still possible at all and research-based learning is to serve this goal, then only through reflection.” (Huber, 2017) Education through science requires an intensive examination of how science is carried out. Three dimensions are given here: the self-reflexion of science as a mode of knowledge, the self-reflexion of the subject through science and the reflexion on the common good that it is intended to promote. Personal responsibility and shared responsibility belong together.

Only through such reflexion did students discover the development of a utopian consciousness, as described below.

#### **4. From Dialogue to Utopian Consciousness**

The path from dialogue to the utopian is a path of consciousness development. This discovery is evident in the students' reflexions. In the spirit of Mannheim (1929), the utopian center is an essential part of human consciousness, but it only gains meaning through historical experience. We achieve this through contact with older people.

“I find it particularly fascinating how it has changed the structure of my thoughts. When I think about the topics and dialogues discussed, my view of these things has changed significantly compared to before the seminar.” (Student reflexion, WS 23/24)

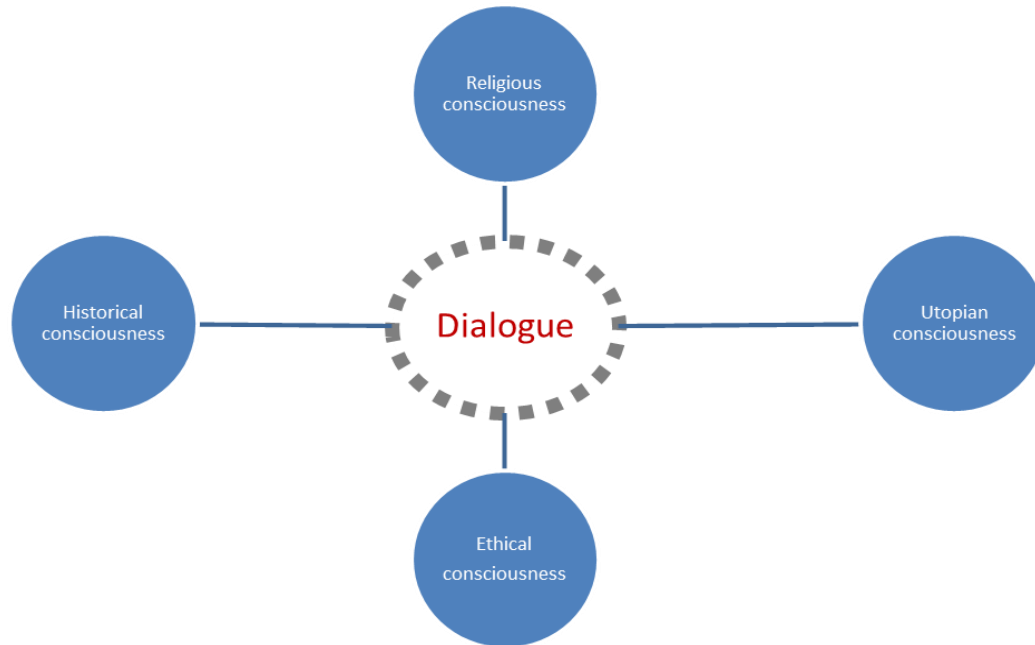
Humans live in the temporality of past, present and future. If our consciousness only grasped the present and past, conscious thinking would be incomplete. Initial empirical results show that it is precisely in the encounter between young and old that all epistemic directions of consciousness can be grasped, developed and shaped.

“The life experiences of the older people helped them to rethink their own decisions for utopian ideas and to explore new ways of thinking and acting. By integrating the life experiences and wisdom of older people into my own reflexions, I was able to reflect on my assumptions and prejudices in a more nuanced way and gain new insights. Since the older generation experienced periods of time that are foreign to us as a younger generation, past events could be recreated in a true-to-life manner. This helped sharpen my historical awareness and better understand events in relation to the present.” (AO, student)

“We were on the path together and only made progress together by broadening each other's horizons – whether with a look into the past or with visions for the future.” (SN, student)



This utopian consciousness is integrated into a comprehensive consciousness development process in which old people play a key role because they can listen furthest into the past (Fig. 2)



**Figure 2:** The utopian consciousness in the context of dialogue and epistemic spheres of consciousness

## 5. Spontaneous Learning Processes

Spontaneity is a manifestation of positive feedback in cybernetics. Spontaneity is the realization of knowledge through recognition. Recognition is the product of purposeful activity. The incoherent diversity of notion is brought together under the guidance of the categories to form a unified idea in space and time. This is followed by the formation of concepts. Spontaneity is activity guided by intellectual rules. Regularity and execution characteristics are connected and are purposefully intentional towards an object. (Kant, 1998).

Such a spontaneous learning process can be found in the following example. The review of a classic book by Ferdinand von Schirach leads to the creative reflexion of SI. HD's answer, which he generates in the dialogue, is a summary and creative development in the sense of age creativity. The spontaneous learning process doesn't cause him any trouble and arises from within himself relatively quickly. The original question was whether “every person has the right to the truth in that statements made by public officials correspond to the truth.”

SI (80): Schirach's demand is 1) beautiful 2) unrealistic 3) utopian. Could it be left as a utopian demand?

HD (84): A beautiful utopia that our society develops in such a way that what is important for our society is supported with truth. This is what good politics should do to make people responsible.

HD spontaneously brings the terms into an order that also takes the common good into account, hence of general interest.

## **6. Knowledge integration**

According to Kant, knowledge arises from two basic sources of the mind, the first is receptivity, which involves receiving an idea, and the second is spontaneity, which involves knowing an object through these ideas (=spontaneity of concepts). Through receptivity an object is given to us, and through spontaneity it is thought of. The ability to produce ideas itself or the spontaneity of knowledge is the mind. (Kant, 1998, pp. 129f.) Different ideas are organized under one commonality. Concepts are based on the spontaneity of thinking just as sensory views are based on the receptivity of impressions.

According to Kant, there is a triple synthesis of knowledge integration:

- a) Apprehension of objects
- b) Reproduction in imagination
- c) Recognition in concept

Receptivity also occurs in the cybernetics of negative feedback from knowledge integration, spontaneity in positive feedback. Therefore deep knowledge integration involve processing concepts within categories of pure reason, drawing spontaneous logical conclusions, finding general concepts, spontaneous ordering, and asking sensible questions. The example of the dialogue between TA and RE in the first section of this text illustrates deep knowledge integration.

Students described their experiences with this situation as follows:

“I felt that my thoughts were growing through these dialogues, where empathy, openness and mutual trust formed the foundation.”

“The intergenerational dialogue helped me better articulate my thoughts and organize them. Perhaps because other points were raised I hadn't considered before.”

“Stepping away from my own values and thoughts to consider other opinions brings dialogue to life.”

“I am particularly fascinated by how it has reshaped the structure of my thoughts.”

All students acknowledge, that their thoughts become unstuck, shaping their minds and breaking down barriers. They recognize new topics introduced by older individuals as their own interests, rethink, reevaluate and delve deeper into them. Hours later they incorporate these new insights into conversations with family members or colleagues. Social reflection is accelerated.

## **7. Conclusion and further implications**

The innovative seminar not only addresses the need to complement individual disciplines in order to create transdisciplinarity, but also tackles overarching questions about problems of society and humanity, where solutions can only be found through transdisciplinary communication if we believe that people are

scientists (Kelly, 1986). In some dialogues, original solutions are found that should be further developed, for example HD's requirement:

“A beautiful utopia is that our society develops in such a way that what is important for our society is supported with truth. This is what good politics should do to make people responsible.”

Different democracies should try to implement this requirement in creative solutions, so that each country can learn from the other. .

The seminar has so far only been tested face-to-face. AI can serve as a medium to create spontaneity in virtual dialogues. That could be made measurable.

## 8. Acknowledgements

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