

Exploring Mentoring through Ecoliteracies

Insights from Ecological Structures

Christian Wiesner¹, Johannes Dammerer¹, Hannelore Zeilinger¹, Verena Ziegler¹

DOI: <https://doi.org/10.53349/resource.2024.i3.a1340>

Summary

The article initiates with a theoretical exploration of fields of practice, followed by an introduction to the domain of mentoring and its foundational principles. A concise overview of Gestalt perception methodology facilitates the reconfiguration of the model of Theoretical Foundations of the Induction Year, aligning it with the European Commission Handbook for developing comprehensive induction programs for novice educators. This restructuring provides deeper insights into mentoring support concepts, prompting an inquiry into requisite abilities for effective mentoring. This investigation transitions to the broader context of ecologies of practice and the underlying principles of ecological structures. Drawing from established ecological dimensions, the article presents four influential figures crucial to mentoring, developed through Gestalt perception methodology. These figures serve to enhance mentoring experiences by leveraging the visual and memorable aspects of perception. Finally, the article provides a summary evaluation of its contributions.

Key words: Mentoring, Ecoliteracies, Fields of Practice, Induction, ecological structures

1 Introduction

This paper provides not simply an *overview*, but a perspective that examines *three* books published by the University College of Teacher Education Lower Austria in recent years, edited by Johannes Dammerer, Elisabeth Windl¹, and Christian Wiesner in varying roles. Rather, the article demonstrates how things can progress.

The three books² are conceived as a series that is certainly not yet complete but is currently in a state of pause to observe developments in the *field of mentoring* and to develop new perspectives from them. Currently, the three mentoring books, which are understood as *works in progress*, lead to internal discussions aimed at connecting the different papers in the

¹ Pädagogische Hochschule Niederösterreich (University College of Teacher Education Lower Austria), Mühlgasse 67, 2500 Baden, Austria.

E-Mail: christian.wiesner@ph-noe.ac.at

books and understanding their connections and relations, as well as highlighting them. The so-called *Research Day 2024* (held by our University College of Teacher Education in Lower Austria this year) was therefore utilized to present the current considerations, which extend far beyond the three books, and this paper attempts to lay another *foundation* for the insights presented during the research day.

So, in this paper, we assemble some ideas and reflections that will engage us in the future. However, every good theory is *supported* by strong *arguments*, bolstered with facts, etc., write Kemmis & Heikkinen (2012), and a good theory primarily demonstrates a *comprehensible coherence* as a '*hanging together*' (in German *Zusammenhang*) within its components and parts to form a whole. The whole or totality is a *Gestalt* (as form) and not a system, as demonstrated in the paper and is based on a specific *structure*. Structures, in turn, can be finely elucidated through ecological considerations, giving rise to systems that represent a *Gestalt* and are based on structures. Beyond these clarifications, this paper will propose a framework that extends beyond existing frameworks to advance the theory of mentoring beyond the scope of the books. Good theories embrace rich *variations*, meaning phenomena must be observable across many theories. In other words, different perspectives can observe, study, and describe phenomena through different theories, but a fruitful theory integrates these viewpoints and uses the phenomena as a basis and foundation (Wiesner, 2024). A so-called *good* theory, therefore, brings together rich, diverse, and integrative designs, intersections, and approaches in terms of *common* and *different* concepts, as well as *common* and *divergent* factors, to offer a theory of a higher degree without completely flattening the differences, in which differences are an integral part. Differences are not contradictions but rather part of a dynamic and evolving system.

Of course, throughout the entire paper, we only have room to provide a concise illustration of how some principles or theories could be elucidated in relation to the evidence gathered in our other papers in the books. Many considerations are explored elsewhere, and the three books should definitely be consulted for deeper insights. Nevertheless, this paper will be of a certain length to effectively demonstrate the interplay of theories and their interactions effectively.

1.1 Fields of Practices

At a symposium on the *ecologies of practice* in 2009, Kemmis et al. initiated the development of contemporary *practice theory*, focusing on an „understanding of practices as living things“ interconnected with each other, thus addressing the concept of *ecologies of practice* that are embedded in *practice architectures* or so-called *arrangements* (Kemmis & Grootenboer, 2008). The roots of ecologies trace back to Fritjof Capra (born 1939 in Vienna).

Practice theories approach their subject, *practice*, in a particular way. They focus on practices, which are collectively shared forms of action, ways of doing things, and the way *one* behaves and act. However, the *field of practice theories* has evolved into an extremely heterogeneous research landscape over years and decades, characterized in many respects

only by *family resemblance* (in German *Familienähnlichkeit*). The theory is often more sociological in many approaches, with Pierre Bourdieu (1930–2002) and Anthony Giddens (born 1938) frequently cited as founders of the theory. However, this often overlooks the *humanities roots*, particularly those from which older sociology drew before it became a social science. The core idea of the present paper originates from the second generation of practice theories, namely Theodore Schatzki (born 1956), who refers to practices as a nexus of *doings* and *sayings*, and Stephen Kemmis (born 1946), who adds the so-called *relatings*. The fundamental commonality among all *practice theories* is the comprehensive treatment of the concept of *practice* itself and the idea that practices can be and are performed by an indefinite number of people. Similarly, a commonality is the assumption that education, formation and upbringing are founded on constellations of practices. Schatzki (2016) understands *practices* as an open, spatially and temporally distributed set of *doings* and *sayings*, organized by shared understandings, teleoaffectivity (purposes, goals, emotions, intentions, or moods.), and rules. It is in the teleoaffectivity moments of the theory where the humanistic sources still emerge. However, practice theories develop a *procedural understanding* of the social by foregrounding practices, which are activities and enactments.

This paper will extend and explore the idea of *ecologies of practices* to *mentoring*, drawing on previous work by Kemmis et al. (2009, 2022), Boehnert (2013) and Heikkinen (2020). We aim to facilitate an initial outline for a third generation of practice theories through our approach. The idea is, with a theoretically look at Schatzki (2012, p. 13), that „a practice is an organised constellation of different people’s activities. A practice is a social phenomenon in the sense that it embraces multiple people. The activities that compose it, moreover, are organised. In the practice theory, „the attributes of a specific practice” (Kemmis et al., 2009, p. 2) influence the *sayings* (in the *cultural-discursive dimension*, within the semantic space, and *in* and *through* the medium of language), *doings* (within the *material-economic dimension*, in physical space-time, and *in* and *through* the medium of work or activity), and (as an expansion within the second generation of practice theories) *relatings* (within the *social-political dimension*, in social space, and *in* and *through* the medium of power). However, materiality can be conceived both as an integral component of practices and as not integral theoretically. In Schatzki's approach, the latter consideration is advocated. The connection and bond between *practices* and the *practice architectures* (arrangements) that both empower and limit all possible practices can be likened to the dialectical relationship between a river and its bed and banks – or with some different formulations and as an original quote:

The relationship between practices and the arrangements that enable and constrain them is like the dialectical relationship between a river and its bed and banks. The bed and banks ordinarily enable and constrain the river’s flow. Slowly and gradually, however, the flow of the river causes erosion which slowly alters the river’s course, and in times of flood, the river can overrun its banks, and dramatically alter its banks and bed, and thus its future course. Neither the river, nor its bed and banks, are

entirely fixed and final; both are to some extent malleable, dialectically adapting to each other as conditions change (Kemmis, 2022, p. 83).

Sayings and *doings* theoretically related to Schatzki (1996, 2001, 2002a), constitute a distinct form of practice and was expanded through the *relatings* (see Table 1). This *interconnectedness* forms „teleoaffective structures” (Kemmis et al., 2009, p. 2) through a *hanging-together of entities* (in German *Zusammenhang*) that imbue *practices* with a sense of purpose (the *teleo* aspect) and influence participants' emotional commitments (the *affective* aspect) towards realizing a specific sense of purpose.

Schatzki (1996) already addresses fundamental issues and the foundational structures of social existence, exploring from there the essence of *human activity* regarding the nature of individuality. As is yet to be explored in this paper, it's not solely about *individuality* but rather about *the developing person* (especially in *mentoring*), as elucidated by Bronfenbrenner (1974 to 1979). Kemmis et al. (2009) identifies through his studies and explorations, shifts in the *sayings, doings* and *relatings* that compose and constitute the practices of leadership, professional learning, and *mentoring*, thereby opening the field of (social) practices (see Table 1). Human coexistence represents an *interconnection* and *interconnectedness of human lives* (as an extension: *connectings*) that forms a context within which everyone is evolving (previously and primarily) into a *person* with (secondary) a distinct *individuality* (Wiesner et al., 2023; Zechner & Wiesner, 2023).

Hence, there is more to consider than merely *doing, saying, and relating* concerning an *ecology of practices*, but that will be discussed later and *in doing futures literacies*. One of them is certainly the diversity of the *connectings*.

sayings (and thinkings)	changes in the ideas about learning, leadership and mentoring is to be understood
doings (and set-ups)	changes in how things are done
(social) relatings	changes to how people relate to one another (socially)
how this hangs together (Zusammenhang)	changes in sayings, doings and relatings that hang together to form new ways of working

Table 1: Changes in sayings, doings and relatings to establish professional learning communities (Wiesner, Dammerer, Zeilinger and Ziegler, 2004 in reference to Kemmis et al., 2009, p. 6)

Human coexistence, moreover, is people forming what is best described with the German word *Zusammenhang*. A *Zusammenhang* is a state of held-togetherness [nexus]. [... A] *Zusammenhang* is a hanging-together of entities that forms a context for each (Schatzki, 1996, p. 14).

According to Schatzki (2001, p. 10), *practice theory* aims to highlight that practices, above all disciplines, always unfold within and through so-called „structures,’ ‘systems,’ ‘meaning,’ ‘life world,’ ‘events,’ and ‘actions’” (among other factors). At the same time, there is (theoretically) no unified practice approach to this.

Despite this diversity, practice accounts are joined in the belief that such phenomena as knowledge, meaning, human activity, science, power, language, social institutions, and historical transformation occur within and are aspects or components of the *field of practices*. The field of practices is the total nexus of interconnected human practices (Schatzki, 2001, p. 11).

A *blind spot* currently exists in the mere (modern) *social* orientation (just as pragmatism often neglects it), as it overlooks essential aspects of *prosociality* and the shaping of *culture* in contrast to pure sociality (social things). We are discussing the *culture of teaching* rather than the sociality of teaching, linguistically distinguishing *school culture* as well, to encompass the societal cohesion fostered through education, formation and upbringing. Due to the overemphasis on the social aspect, *social order* (and organization) is often considered the preeminent concern of modern social thought. However, even in this context, especially concerning *mentoring*, it is necessary to rethink and broaden our perspective to include diversity in (theoretical) relationships. This is a well-known fact that becomes evident as early as in the discussion among sociologists (with a humanistic and culturally orientation) in 1928 (to be found at Tönnies et al., 1929), distinguishing between *competition as rivalry* and *competition as a challenge*, which is further elaborated upon following Mannheim's presentation on *The meaning of competition in the area of the intellectual* (1929), and is also reflected earlier in Tönnies' clear delineation of *Gemeinschaft* (community) and *Gesellschaft* (society) from 1887. For every framework, the differentiation between communities (*Gemeinschaften*) and societies (*Gesellschaften*), as per Tönnies' conception, is crucial in order to categorize *prosocial* and *social* relationships into quiet different types. Later on, we will revisit this again during the modeling of mentoring.

This perspective, which encountered little disagreement in 1928 but rather received acknowledgment, now represents a blind spot in current examination. In the discussion at that time in Tönnies et al. (1929), Ferdinand Tönnies (1855–1936; p. 87) himself already emphasizes that „social relations and conditions” lead to an understanding of „individualism” and the „unleashing of individuals” (p. 88) through the consideration of a „relatively static behavior,” from which the nature of competition as *rivalry* can also be derived. Franz W. Jerusalem (1883–1970) also points out in the discussion the „struggle of individuality for the content of collective spirit,” whereby „modern individualism” leads to the collective imposition of individual worldviews. Kurt Singer (1886–1962) refers to this discussion by stating that society presents itself as a „sum of individuals as individuals” (p. 105), but as Emil Lederer (1882–1939) observes, „the individual cannot become productive from within itself”

(p. 107), and the „development of the intellectual [des Geistigen]” (in German *Geistige* encompasses more than just the intellectual; it denotes a connection as a *Zusammenhang* between the intellectual, spiritual, ideational, and conceptual realms) is only possible because the human being as a *developing person*. This is a phenomenon that develops from the *community* – from the place where *mentoring* takes place and is based. Mentoring addresses *challenges*, but it is never about rivalry.

In the words of Hayek (1983), an ‘isolated individual is essentially a dead individual’. Humanity, through culture mediated by tradition, constructs manifestations of civilization and society. Thus, as a community of persons, humans possess the comprehensive ability (*literacies*) to learn from one another. This mutual and collaborative learning arises through the cooperation of persons who are acquainted with one another, enabling them to collectively perceive events *unfolding* in the world.

At the heart of *practice theory* lies the conception of practices as embodied, materially mediated configurations and arrays of *human activity*, primarily and centrally structured around shared practical understanding (Schatzki, 2019). So, fundamentally, it is about understanding the developing person in relation to culture (and cultures), community (and communities), and society (and societies). As mentioned earlier, however, the *understanding* primarily focuses (in a *hermeneutic* understanding) on the *social aspect*, leading to the adoption of the following perspective:

The social is a field of embodied, materially interwoven practices centrally organized around shared practical understandings. This conception contrasts with accounts that privilege individuals, (inter)actions, language, signifying systems, the life world, institutions/roles, structures, or systems in defining the social (Schatzki, 2001, p. 11).

That would be, from our perspective, too limited a perspective that we aim to broaden in the papers. However, according to practice theorists, all these phenomena can only be understood through the *lens and the fields of practices* – a consideration with which we concur. For instance, actions are inherently embedded in practices, just as the *developing persons* are shaped by them. Language, furthermore, is a form of (discursive) activity and thus a phenomenon within practice and the life world, while institutions and systems emerge as their effects. Similarly, like all prosocial and cultural aspects, all human activities and behaviors can be viewed in this manner. It goes without saying that practice theorists have diverse interpretations of (all or some of) these concepts. However, the idea of this paper, as well as many approaches by other authors before, is to add an *ecological perspective* for further expansion.

Returning to what has been said so far, Schatzki (2002a, p. 18), in *Zusammenhang* (nexus) with Kemmis et al. (2009) suggests on the development of professionalism, that it will be crucial for our *sayings, doings* and *relatings* to align with each other. However, the *structure* of such *coherence* is not (and will never be) a fixed formula or recipe, even though it is not

arbitrary. It means that the arrangements are nonarbitrary (in German: *nicht-beliebig*). Order as *arrangement* refers to the interconnectedness and is a *hanging together* of things, relationships, and *connectings*. Arrangements are thus the culture of *lived* sayings, doings, and relating. It pertains to the *arrangements* and the act of *arranging* order through relationships and being-in-relation (*arrangings*). It is always important to consider that professional learning *communities* encompass and represent more than just *communities* of practice as an idea, as demonstrated by the work of Wiesner & Schreiner (2023) – at the same time, these forms highlight the *community* again rather than the society. Therefore, the *community* is essentially a field of embodied, materially interwoven practices centrally organized and arranged around shared practical understandings that form an interconnectedness. A very valuable insight as soon as we look at the phenomenon of *mentoring*.

1.2 Foundations of Mentoring

If *mentoring* is understood as a form of *prosocial* and *social* practice (or *practices-in-different-fields*) and thus as *activities of teachers*, it can be assumed that practice is simultaneously an *expression* of a structured constellation of human activity as organized and arranged actions (Schatzki, 2002b, 2010). Pedagogy, praxis, and practice-based education are initially „against atomistic individualism“ (Kemmis, 2012a, p. 82) and aim to transcend a „purely technical definition“ of the role of pedagogy and education „in society“, focusing instead on the „self-understandings of members within the communities and societies“ they inhabit and exist.

However, *mentoring* appears at first glance for Colley (2003, p. 13), to be fundamentally „poorly conceptualized and weakly theorized, leading to confusion in policy and practice.“ However, „there seems to be various definitions and understandings of the concept of mentoring“ (Heikkinen et al., 2008, p. 108). But on the other hand, „the phenomenon begs for clarification, and better means of assessing its importance need to be developed“ (Merriam, 1983, p. 171). First, we can offer some *critical reflections* that question the phenomenon further:

The term ‘mentor’ is generally used in a much narrower sense, to mean teacher, adviser or sponsor. As we use the term, it means all these things, and more (Levinson et al., 1979, p. 97).

The concept of mentoring seems to have become a new global mantra in teacher education (Heikkinen et al., 2008, p. 109).

In the academic context, the intensive search for a clear description of *mentoring* began no later than the 1970s. The idea was to capture the multiperspectival nature of mentoring in order to then formulate a description of the phenomenon or a definition, thus initially revealing diverse theoretical approaches and ambiguities. In early mentoring research, Levinson et al. (1976, 1979) already emphasized the *personal growth process* of mentees as

developing persons through their relationship with a mentor. The mentor relationship „is one of the most complex, and developmentally important” (Levinson et al., 1979, p. 97) and the mentor is „a person of greater experience”. Specifically, when we trace back to the origins, it is noticeable that in particular made efforts to establish the classical, ancient notion of mentor as a *wise person* from Greek mythology as a phenomenon to be clarified – always in contrast to „The Authoritarian Personality” (Adorno et al., 1969).

To understand the idea and concept of *mentoring*, the term can initially be traced phenomenologically to ‘the original sources in the narrative as observation’ (Stenger, 1996, p. 85). The source of the expression, from which the current meaning has been ‘drawn’ (Vetter, 2007, p. 7), can be found both in Greek mythology in Homer’s epic *The Odyssey* (Voss, 1843) and in one of the most popular readings of the *Enlightenment* (Schmitt-Maass, 2018). Uncovering the narrative thus allows for the recognition of the ‘*original foundations*’ (in German *Urquellen*) of mentoring. *Mentor* was the well-educated and experienced friend of Odysseus and a paternal supporter, *wise leader*, knowledgeable advisor, and astute companion to Odysseus son Telemachus (Vollmer, 1836, p. 1189). Mentor also managed ‘the household’ (in German *Hauswesen*; Roscher, 1894, p. 2801) of Odysseus, thereby being attributed with corresponding expertise. In various stages of life, Mentor accompanied both Odysseus and Telemachus as a figure of identification, possessing both personal and divine wisdom, especially since ‘Athena [...] repeatedly assumed his form’ in the narrative. The goddess Athena served as the *personification of wisdom* available to Odysseus and Telemachus. The concept of *wisdom* (in Greek *sophia*; Söder, 2009, p. 35) at that time primarily referred to ‘human conduct’ (Brugger & Schöndorf, 2010, p. 565). From its original sources, mentoring is understood as *personal mastery* and *craftsmanship* (Hofmann, 2017), thus being one of the ‘oldest methods for transmitting experiential knowledge and know-how, for qualification, promotion, and development’ (Carl & Feldhaus, 2017, p. 21). Second, we can offer some clarifications that delve deeper into the phenomenon (with some insights):

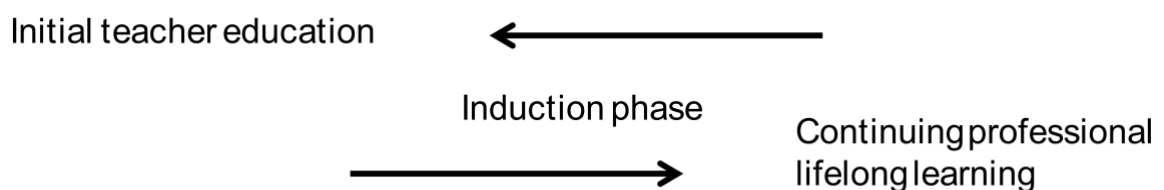


Figure 1: The continuum of professional development through mentoring
(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004; in reference to Jokinen et al., 2008, p. 81)

The relationship between a mentor and a mentee aims at a temporary learning partnership and has to do with several concepts, for instance sharing professional experience and professional development, reflection, dialogue and interaction, communication, caring, guidance, counselling, coaching and different modes of mutual empowerment (Jokinen et al., 2008, p. 78).

Mentoring involves the deliberate pairing of a more skilled or more experienced person with a less skilled or less experienced one, with the mutually agreed goal of having the less skilled person grow and develop specific competencies (Murray, 2002, p. xiii).

Mentoring is a relatively stable yet dynamic, personal, value- and meaning-laden, and development-oriented supportive care provided by one person (mentor) with expertise through insights, knowledge, and experiences to another, usually less experienced developing person (mentee, novice). Mentoring facilitates the dynamical development and formation of personality, sense of community, and active handling of tasks through a supportive, nurturing, value- and meaning-based relationship grounded in goodwill, appreciation, resonance, sensitivity, recognition, awareness and responsibility (Wiesner, 2020, p. 213).

The mentor has another function, and this is developmentally the most crucial one: to support and facilitate the realization of the Dream (Levinson et al., 1979, p. 98).

Traditionally, *Mentors* in the school system „are experienced colleagues from the same or another school, who support new teachers professionally and emotionally during the induction phase” (Jokinen et al., 2008, p. 77). *Mentees*, in turn, „are newly qualified (new or beginning) teachers who are willing to contribute to their own professional development” (Jokinen et al., 2008, p. 77; Zeilinger & Dammerer, 2022; see Figure 1). However, „during the first years of their career, newly qualified teachers meet challenges for which they have not been prepared to in their initial teacher education” (Heikkinen et al., 2008, p. 108).

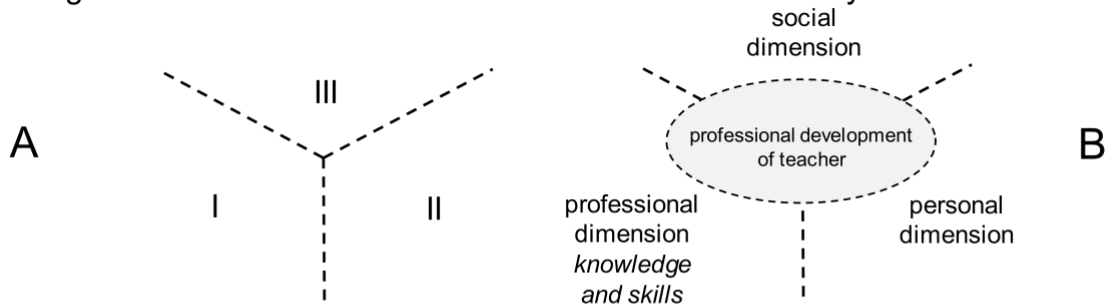
1.3 Structures within structures in Mentoring

If one looks at the *Handbook of the European Commission* by Snoeck et al. (2010, p. 4), three forms of enactment can be distinguished in *mentoring* for the *developing coherent and system-wide Induction programmes for beginning teachers*: „personal, social and professional” (Eisenschmidt, 2006; see Figure 2 and 3). In the *professional* dimension, „the emphasis is on supporting the beginning teacher in gaining more confidence in the use of essential teacher competences, including pedagogical knowledge and skills” (Snoeck et al., 2010, p. 12). In the *social* dimension, the focus „is on supporting the beginning teacher to become a member of the (learning) community of the school, understanding and accepting the qualities, norms, manners and organisational structure that exist within the given school” and it „also includes the introduction into the micropolitics of the school”. The *personal* dimension „involves the development and elaboration of personal norms towards pupils and colleagues, the elaboration of the teacher’s view on teaching and learning”.

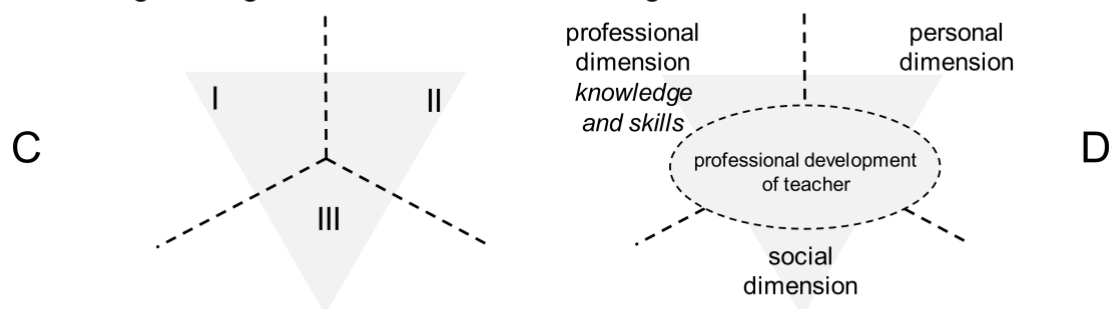
In this paper, we aim to provide a concise *insight* into the *phenomenology of perceptual Gestalt* (Vienna School of Gestalt) as a theory for clarifying *structures*. In (A), the structure of the original illustration by Eisenschmidt (2006, p. 9; see Figure 2) is depicted, from which the

three fundamental dimensions are derived in relation to their development in the *induction year* (Snoeck et al., 2010). In (B), these three dimensions are named to provide an impression of their position and placement. This form of illustration was also employed originally by Eisenschmidt (2006).

1. Original idea of the theoretical foundations of the induction year



2. Mirroring the original illustration and enriching the idea



3. Expansion of the figure through what already exists

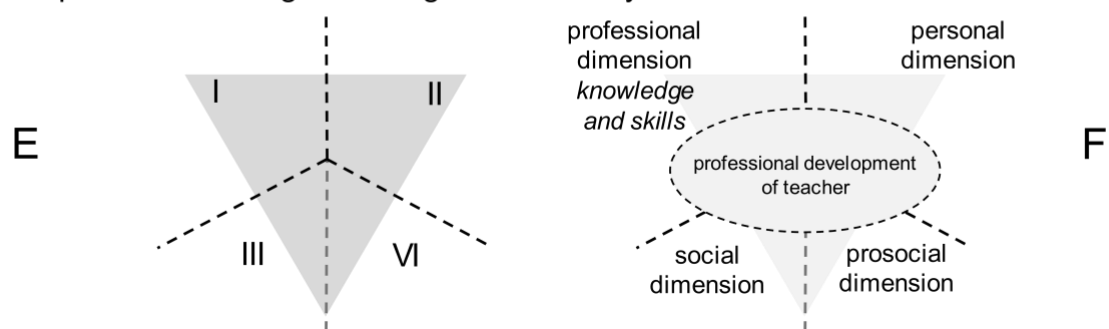


Figure 2: Development and structural change in modeling a theory through Gestalt (self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004; in reference to Eisenschmidt, 2006, p. 9)

In (C), the form is initially mirrored as a *Gestalt* and extended by the addition of a conceptual triangle. The conceptual triangle naturally already existed in the illustration (A) within the basic structure, as evidenced simply by the line work. In (D), the mirroring from figure (B) is simply utilized, while simultaneously introducing the triangle as a new structuring element. Through this *structural alteration*, it becomes apparent that the dimension at the so-called lower apex must also be divided into two moments, which are to be considered in this paper.

In (E), instead of three dimensions, four are now introduced. In (F), the dimensions are named, revealing the emergence of *polarities* that can be thought of meaningfully and are fruitful and conducive for any analysis. Naturally, dimensions I. and II. would also disintegrate into further dimensions, resulting in more dimensions than this illustration currently elucidates. However, this additional breakdown is not particularly relevant for this paper, and therefore will not be pursued further. Should there be an interest in this aspect, reference can be made to the book by Wiesner & Brandhofer (2024), where such analytical dissections are undertaken.

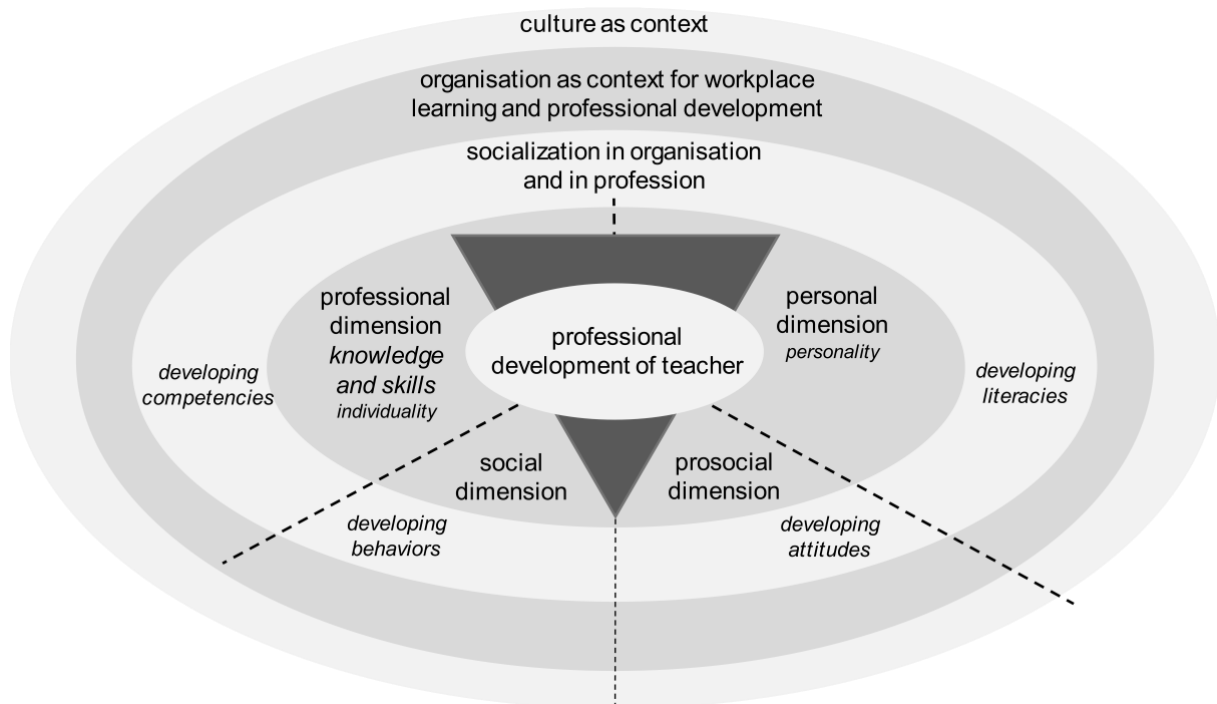


Figure 3: The theoretical foundations of development and structural change
(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004; in reference to Eisenschmidt, 2006, p. 9)

The mirroring is necessary so that *individual* and *personal* processes appear as (easier) developable and changeable in the illustration *above*, while more stable and quasi-stationary structures, requiring *collectivity*, are now located *below*, thereby creating a coordinate system. It is always the ground and the basis in Gestalt that enable (in perception) stability. Above us in perception is the sky, representing the unattainable infinity, whereas it is often laborious to work on the ground. Naturally, in models, there is essentially no *up* or *down*, which is where gestalt perception is intended to operate, not reality. And in reality, *fundamentally*, there is no *up* or *down* in this world; rather, there is the direction towards the core or away from the core.

Now, combining the previously described aspects discussed, we obtain an initial depiction of mentoring, which exhibits a relatively high level of complexity that needs to be considered. At the same time, and as the further progression of the paper will demonstrate, a visualization requires several additions, which we introduce supplementarily in this paper (and in Figure 3). This will differentiate the *social* dimension into a *prosocial* and *social* dimension analytically –

and the change and expansion become easier and clearer to see when looking at the illustration.

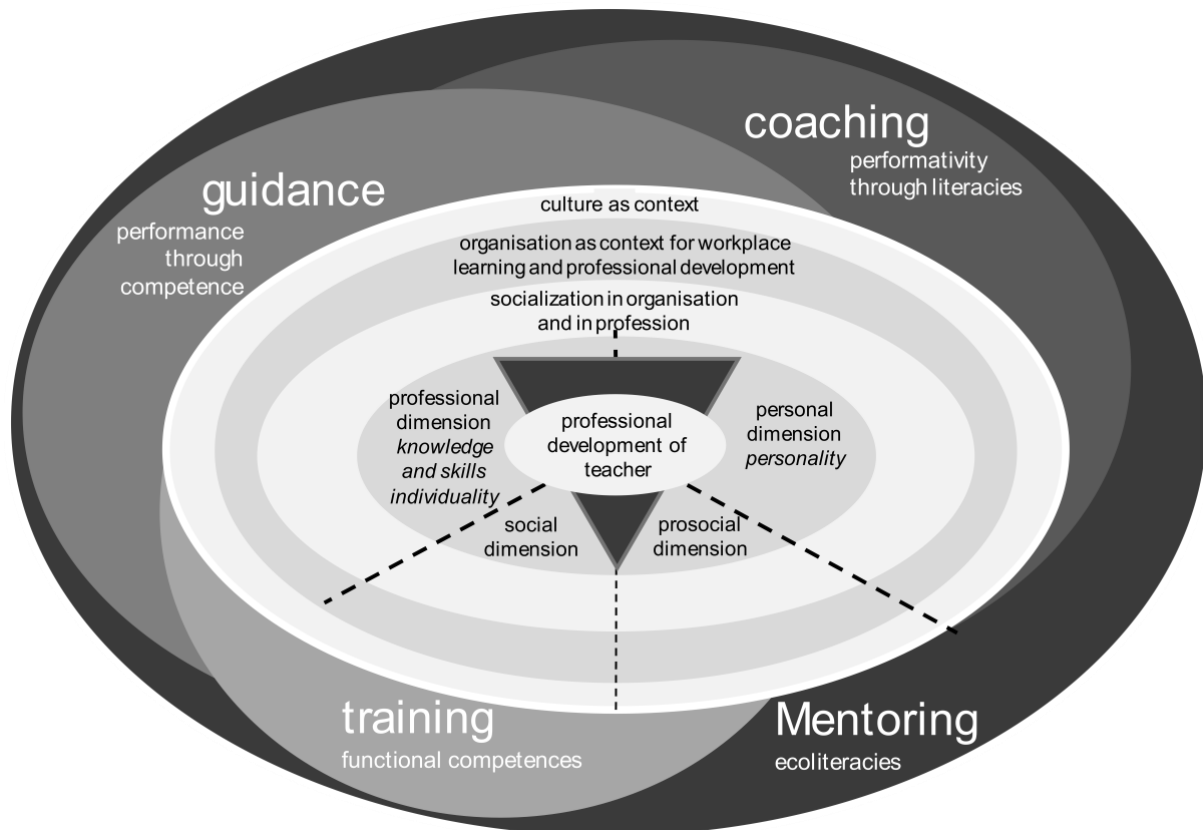


Figure 4: Exploring the Diversity of Support Concepts: A Differentiated Perspective (self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004; in reference to Wiesner & Gebauer, 2003, p. 110)

Analytically, now *relatings* and *connectings* diverge to such an extent that, similar to the difference between *sayings* and *doings*, each moment cannot be fully explained and understood by the other. Nevertheless, they occur on a certain level; thus, mentoring is based more on a specific form of *Zusammenhang* or theoretically on the idea of a dynamical *living arrangement*, which should be further explored in future papers. The lines separating the dimensions are not randomly drawn. With some similarities to Shove (2010), this also gives rise to a more strongly abstracted and describable practice, as well as a concretely observable, occurring practice within the framework of practice. Similarly, this perspective also gives rise to many similarities with the concepts of Karl Bühler (1879–1963), resulting, in Bühler's terms, in a *showing field* (personal-prosocial) and a *symbol field* (knowledge-social), as documented by Wiesner (2022a; Gebauer & Wiesner, 2022; Wiesner et al., 2023).

In the context of *concepts of support* (in German *Konzepte der Begleitung*), there are numerous interpretations and significant confusion regarding expressions and terms within the international teacher education debate. In any event, there is minimal clarity regarding the specific concepts and insufficient elaboration, unfolding, and expounding of expressions. If we pay attention to the illustration (in Figure 3), it becomes *visible* that each form of

development can generate (and phenomenologically does generate) its own *concepts of support* (see Figure 4).

Heikkinen (2020) points out that in the context of *diversity* there are various practices within the educational system that can partially substitute for one another, such as *mentoring, tutoring, coaching, training, supervision, guidance, and counseling*. However, fundamentally, there are only *variations of diversity*. Depending on the choice of direction and concept of support in *mentoring*, vastly different mentoring architectures (*arrangements*) emerge, as the underlying structure changes (see Figure 2). This particular structural change has been repeatedly demonstrated by Wiesner (2020 to Wiesner & Gebauer, 2023), based on attachment theory, and essentially confirmed through independent investigation by Keller-Schneider (2023). All successful explorations, qualifications, and professionalization's in *mentoring*, aimed at developing a professional teaching persona, can therefore scarcely be achieved solely through advisory and deductive discourse (guidance and training), as outlined by Wiesner & Gebauer (2023). Instead, they need to be explored and reflected upon through indicative and demonstrative discourse (coaching). In *mentoring*, coaching receives particular emphasis over guidance (in German *Beratung*) and training (instruction, in German *Anleitung*), imbued with a specific tone and coloration, thus giving rise to a distinct form. This fosters a preference for *prosociality* and situates mentoring as a phenomenon of *community*, aligning with its historical roots.

Learning in mentoring, as per C. Bühler (1932, p. 17 f.), is based on „basic directions,” wherein phenomena can be identified and captured, aligning with both „preservation [...] as well as [...] change,” thereby necessitating transitions and a respective in-between. In mentoring, the question revolves around what kind of teacher one aspires to become and wishes to be, and how one aims to behave authentically. Personal growth requires insights into the *ecologies of practices*.

2 Ecologies of Practice

By ‘ecologies of practices’ we mean distinctive interconnected webs of human social activities (characteristic arrangements of sayings, doings and relatings) that are mutually-necessary to order and sustain a practice as a practice of a particular kind and complexity (e.g. a progressive educational practice) (Kemmis & Mutton, 2012, p. 201).

The conceptualization of mentoring as an *ecological structure* of practices introduced in this paper is based on the *theories of ecologies of practices* and the *pedagogy of communication, interaction, and punctuation* (Wiesner, 2022a, 2022b, 2022c). Furthermore, the paper is based on considering and integrating Wiesner & Gebauer's theory of *being-in-relations* (Wiesner & Gebauer, 2023), to offer a next stage in theory development as an extension. Theoretically, systems are preconceived abstractions, highlighting specific structures within structures. It

appears wise not to overuse the (abstract) term *system*, as it can lead to various misconceptions and pitfalls. Rombach (1966a, 1966b) provides a fundamental clarification on this matter. This paper focuses on vitality within structures (*living structures* as a *web of lives*) that can be analytically and abstractly labeled as *systems*. The fact that these are abstractions is underscored by Capra (1996) quite emphatically.

In other words, the web of life consists of networks within networks. At each scale, under closer scrutiny, the nodes of the network reveal themselves as smaller networks. We tend to arrange these systems, all nesting within larger systems, in a hierarchical scheme by placing the larger systems above the smaller ones in pyramid fashion. But this is a human projection. In nature there is no 'above' or 'below,' and there are no hierarchies. There are only networks nesting within other networks (Capra, 1996, p. 35).

Capra (1996) establishes an understanding of *Ecoliteracy*. The idea of ecoliteracy refers to the comprehension of ecological principles, systems, and structures, as well as the ability to apply this understanding in decision-making processes and actions in terms of practices. McBride et al. (2013, p. 3) notes that Capra (1996) has significantly advanced *ecoliteracy* in „the broader humanities,“ with a focus on „the creation of sustainable human communities and society,“ drawing extensively on the work on *ecological literacy* of Orr (1989, 1992). The term *ecological literacy*, coined originally by Risser in 1986, refers to the capacity to grasp (critically) scientific methodologies, concepts, and the comprehension of contemporary issues, particularly those related to science and technology, alongside understanding selected disciplinary frameworks.

Unlike Orr (1989, p. 334), who describes becoming *ecologically literate* is described as a process that involves to be able to read and the ability to use numbers („and I think even like to read“ and like to count), Capra (1996) approaches the idea in a more comprehensive and profound manner. Thus, according to McBride et al. (2013, p. 15), the basis of *ecological literacy* by Orr (1992) remains „knowledge, caring, and practical competence,“ whereas with Capra (1996), it revolves more around the *Zusammenhang* (interrelation, nexus) between *thinkings* (sayings: cognitive), *feelings* (emotional), *doings* (behavior, action: activities), and *connectings* (invokings: spiritual, *attitudes*, experiences, connections, traditions, rites). The (first) idea that the prevailing epistemological standpoint inadequately represents reality was initially introduced by Gregory Bateson (1904–1980) in his influential work *Steps to an Ecology of Mind* (1972). Bateson argued that the human perception of the world is a flawed representation of this world and from this perspective, concepts of supportive care can emerge (see Figure 4).

2.1 Origins of ecological thinking

The well-known and comprehensive clarification of the term *Ecology* comes (original) from (Haeckel, 1866, p. 235), in the second volume of his *General Morphology*, under the

expression „Oecologie” (Boehnert, 2018). According to Haeckel (1866, p. 236)³, „Oecology, or the science of the natural economy [as ecological household; in German *Naturhaushalt*]”, encompasses „the entire science of the organism's relationships with the surrounding external world” (p. 286). As early as 1838, Vetter writes in the *Encyclopedic Dictionary of Medical Sciences* under the term *hygiene*, that „Oecology is the doctrine of the layout of dwellings, naturally also only with regard to hygiene” (p. 445), and in 1847 Buchner as Hofstabshebarzt (court physician) writes under the term *health care*, the „doctrine of the health-based design of dwellings” (p. 781), defining the science as the expression of „Oecology”⁴. In retrospect, the expression *ecology* refers to a particular significance, namely that it encompasses both *health care* and its *cultural* embedding, as well as the actual meaning of the originally ancient Greek expression for *house* (οἶκος), as indicated by the consensus of the authors (Hachmann & Koch, 2016). The leadership of the *household* by the historical figure of the mentor, along with the concept of ecological thinking, reflecting upon and contemplating the stewardship of the *ecological household*, are noteworthy in this regard.

A *pedagogically* significant and highly regarded contribution to the ecological approach comes from the theory of *human development*, specifically from Urie Bronfenbrenner (1917–2005). His theory constitutes a *structural theory* rather than a systems theory. The theory specifically deals with the *developing person*, not with the developing individual (what is theoretically very important). A lifelong task (for the developing person) is the developmental process, which includes *developing abilities* (competencies, literacy, literacies) to explore significant aspects of life, as well as to appropriate the world through ideas and to carefully shape it together and apart.

What we can clearly demonstrate since at least the discussion of the *German Society for Sociology* in 1928 is that (modern) *individuality* is particularly a *social* phenomenon in *Zusammenhang* (connection, nexus) with *society* or *societies* (Tönnies et al., 1929). However, Bronfenbrenner (1974, 1976, 1977) emphasizes in his ecological paradigm *the developing person*, thus focusing on a *prosocial* and *personal arrangement* in the *community*, which in turn is only accessible through the forms of *coaching* and, even more so, through *mentoring* (also in terms of historical sources). A significant expansion for an understanding of the relationship is the *development of ecoliteracies* through and for *mentoring*. This approach will now be further developed in the paper. Before that, it is also important to highlight the concept of *being housed* and *becoming at home*, from which *community*, *culture* (care, health), and (afterwards) *society* within societies emerge.

2.2 Exploring Mentoring through Ecoliteracies

In the article by Heikkinen (2020, p. 28) on *Understanding Mentoring Within an Ecosystem of Practices*, the author attempts to shed light on the „relationships between different practices and the environments in which they exist.” Conceptually, this gives rise to the form of so-called *ecological research*, in which mentoring is viewed „as a kind of 'living thing'”: Social practices resemble living organisms in many ways. Practices, like living organisms, evolve, live

and die in a particular setting. They can move from one place to another, form territories and compete with one another. (..) The whole set of social practices in the midst of which mentoring lives can be understood as an ecosystem of education” (p. 28). Capra (2005, p. 23) enumerates eight principles of ecology, applicable to various practices, including educational ones. „If practices and ecologies of practices are living systems, then they should behave in accordance with eight principles that Capra outlines”, writes Kemmis et al. (2012, p. 40), thus making *ecological structures* visible even within *mentoring*.

This seems to me to be a generative way to think about practices, not just as actions or activities, but as living things that relate to other things in a living world around them (Kemmis, 2022, p. 94).

All manifestations of *ecoliteracies* are, in the sense of Mannheim (1929), based on *grasping* the interconnectedness (*connectings*), wherein the thinking and feeling subject, as a developing person, delves into the realm of lived and experienced thought. *Ecoliteracies* refers to the whole person who thinks and feels and is connected with the world, which is why the developing person is also referred to as the *humane human*. The structuring moments of *ecoliteracies* are initially served by Capra's principles of ecology.

2.2.1 Networks

Because members of an ecological community derive their essential properties, and in fact their very existence, from their relationships, sustainability is not an individual property, but a property of an entire network (Capra, 2005, p. 23).

Different practices derive their essential properties and their existence from their relationships with other practices (Kemmis, 2022, p. 132).

Networks are „nonlinear” (Capra, 2005, p. 19; see Figure 5), thus differing significantly from the entire scientific tradition, which is founded on linear thinking: „In linear thinking, when something works, more of the same will always be better”. Therefore, it is to be noted that in linear thinking, the focus is on *optimizing* variables (Wiesner & Schreiner, 2019). However, Capra (2005, p. 20) says, that „you can't take a photograph of the web of life because it is nonmaterial – a network of relationships”. Because networks are structurally interconnected and nonlinear, dynamic, and rooted in patterns of relationships, comprehending the principles of ecology requires a new way of perceiving the world. Caring and problem-solving necessitate a lasting approach that involves bringing people together and addressing challenges through the lens of hope and community, within the context of networks of support and dialogue (*carings*).

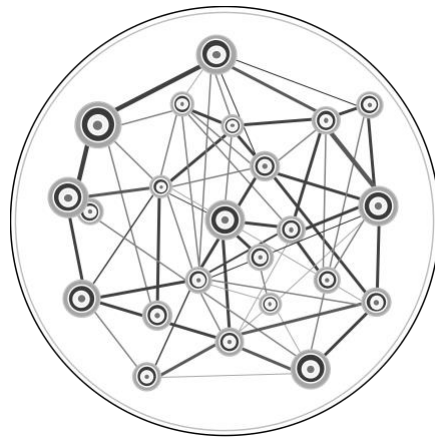


Figure 5: Networks

(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004; in reference to Boehnert, 2013, p. 447)

If practices are living things and ecologies of practices are living systems, then practices will derive their essential properties and their existence from their relationships with other practices (Kemmis et al., 2012, p. 40).

For instance, as an example, the establishment of *professional learning communities* occurs through practices of professional development at various locations across the district, as well as through teaching and learning practices in classrooms (Wiesner & Schreiner, 2023). In other words, and considering Bronfenbrenner (1979), Brim (1975), Goodlad & Richter (1966), and Priestley et al. (2021), it necessitates the connection and involvement of *multiple structures* - at least value-laden in *thought*. However, the most promising approach is not conceived from the top-down (thinking); rather, it is one where relationships are *cultivated*, and *developing persons* are encountered, specifically at the micro-meso-arrangement. „Learning in learning communities thus manifests itself as a living practice that orchestrates (among other things) the people who practise it” (Kemmis et al., 2012, p. 40). The practices of mentoring are developed in *networks of practices* and *through practice architectures*: „Different practices derive their essential properties and their existence from their relationships with other practices” (Heikkinen, 2020, p. 34). In schools, various practices such as leadership, professional development, teaching, and learning form a *network*, with each playing a vital role in ensuring the practice „of being a 'learning community'” (Kemmis et al., 2012, p. 3) and only „the network has the resilience” (Capra, 2005, p. 23) to keep something alive even when „members leave or move on”. „At times, the level of formality has varied, being higher on occasions and lower on others” (Heikkinen, 2020) p. 34), yet the higher the formality, the less dynamic, adaptable, and developmental it tends to be. The greater the persistence, the less openness there is for developing practices.

In the spirit of Schefflen (1967, p. 9), it is worth considering, that „societies are [fundamentally] complex, and each member will belong to a number of subgroups [and

communities], moving from one temporary affiliation to another even in the course of a day or week.”

Mentoring practices „derive their essential properties from local, regional, national and international educational and political practices” (Heikkinen, 2020, p. 33). In mentoring, the focus lies on strategies for enhancing the vitality and sustainability of our relationships and communities, primarily through the establishment of mutually supportive connections between mentors and mentees. Concurrently, this process integrates our network of mentorship with other supporting networks and the broader global networks, all within the framework and context of the educational system (of nested systems). In line with Capra (1996, p. 297), every form of *ecoliteracies* within *mentoring* requires mentors to understand „the principles of organization of ecological communities“ and to utilize those „principles for creating sustainable human communities.” Networks has „provided new understanding of the structure, properties, patterns and organizing dynamics of systems” (Boehnert, 2013, p. 447). The idea of *resilience* can be explored and understood through networks. In the context of a reorientation of practice theory, it's about *connectings*, which represent the core element here. In *mentoring*, there is a significant distinction between the idea of *doing* as making and producing (in German *Machen, Herstellen*) and *letting grow* as cultivating growth (in German *Wachsenlassen*), resulting in *networks* being built and shaped in vastly different ways (Mannheim, 1929). In line with the historical source regarding *Mentor* as a figure embodying certain human qualities, the emphasis is on *letting grow* (in German *Wachsenlassen*).

2.2.2 Nested Systems

At all scales of nature, we find living systems nesting within other living systems-networks within networks. Although the same basic principles of organization operate at each scale, the different systems represent levels of differing complexity (Capra, 2005, p. 23–24).

Different levels and networks of practice are nested within one another (Kemmis, 2022, p. 135).

If practices are considered living entities, then various arrangements of practice will be interconnected and the practices „will be nested within one another; particular kinds of activities will be nested in different practices” (Kemmis et al., 2012, p. 4) – such as leadership, administration, professional development, teaching, and learning. However, this chain does not operate in a singular direction. For Bronfenbrenner (1979, p.3), every „ecological environment“ is conceptualized „as a set of nested structures, each inside the next, like a set of Russian dolls“ (see Figure 6). But the Russian doll exists within a structure. Events occurring at one arrangement of the system impact the sustainability of the systems integrated within other arrangements. However, fundamentally, there is no hierarchical *above* or *below* here; thus, the micro-structural arrangement can be just as complex as the macro-structural

arrangement, but in a different manner and with a different kind. At the innermost arrangement is the immediate setting containing „the developing person” (Bronfenbrenner, 1979, p.3), which is fundamentally to be regarded as an exceedingly complex and vibrant occurrence. As a reminder, the *personality* develops from the idea of the *person* (not from individuality).

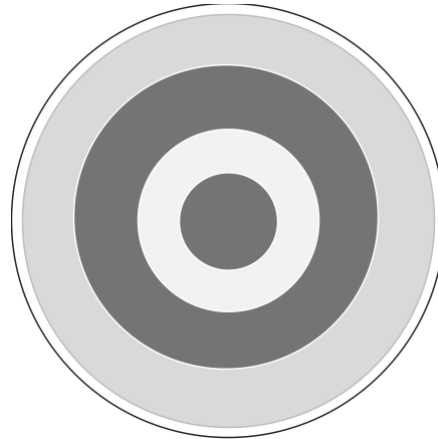


Figure 6: Nested Systems

(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004; in reference to Boehnert, 2013, p. 448)

Within social systems such as schools, the individual child's learning experiences are shaped by what happens in the classroom, which is nested within the school. which is embedded in the school district and then in the surrounding school systems, ecosystems, and political systems (Capra, 2005, p. 23–24).

The ecological environment is conceived topologically as a nested arrangement of concentric structures, each contained within the next. These structures are referred to as the micro-, meso-, exo-, and macrosystems (Bronfenbrenner, 1979, p.22).

In this sense, Bronfenbrenner (1979) already introduces the idea of *networks* and *nested systems* (see Table 2 as example for the school system), albeit with a focus on *structures* and articulated in different terms. It is worth noting that from the *structures*, abstract and analytical *systems* are now articulated, representing parts of the whole. Together, they form a *Gestalt* (not again a system). To create a Gestalt, „different levels and networks of practice are nested within one another,“ writes Heikkinen (2020, p. 35). Similar to Bronfenbrenner (1979), an illustration of this *nestedness* as visualization leads to a structure composed of systems (see Figure 7), namely practices in a school, in a municipality, in a region, and in national and international practices. However, close to Bronfenbrenner (1979), the structure should start with the *developing person* (intrapersonal), encompassing both the mentor and the mentee as *developing persons*, upon which the relationship between mentors and mentees (interpersonal) is formed. A similar approach involves dividing arrangements into intrapersonal, interpersonal, environmental, and socio-cultural (as social and then cultural).

Once again, this highlights the distinction and transition from *prosociality* to *sociality*, from the concrete to the abstract, from the immediate to the indirect. Or in other words: „What constitutes the practice of a learning community manifests itself at various levels of complexity, from the general and abstract to the particular and concrete” (Kemmis et al., 2012, p. 42).

Level	Description	Examples
SUPRA	International	common framework
MACRO	System, National	core objectives
MESO	School, Institute	educational programme
MICRO	Classroom, Teaching	teaching plan
NANO	Pupil, Persons, Individuals	personal or individual plan for learning

Tabel 2: Levels and Products (in reference to Priestley et al., 2021, p. 10 and Thijs & van den Akker, 2009, p. 9; Wiesner et al., 2024)

What is a living system? What is the difference to a living structure? A living system, as perceived by Capra (2005) and outlined in this paper by Kemmis et al. (2012), Kemmis & Heikkinen (2012) and Heikkinen (2020), encompasses every living organism, ranging from the smallest bacterium to the various plants and animals, including humans. Secondly, „the parts of living systems are themselves living systems” (Capra, 2005, p. 19). Both statements about systems are coherent as long as one thinks *in terms of systems*. However, viewing things in terms of systems, as emphasized by Rombach's comprehensive clarification (Rombach, 1971), is only a precursor to the structural approach and particularly manifests *functionalism*. Systems exhibit functional conditions and determine the respective *statics* and static characteristics of a structure. However, what is *possible* and *changeable* can only be recognized from within a *structural dynamics*' perspective. Systems and structures are closely related in human thinking, yet significant differences exist between them. The distinction can be explained with an example: systems, which manifest themselves functionally and statically, resist or like to resist structural changes. Any alteration to the school system or the educational system represents a structural change that offers a new, different system.

Systems are not changed by *systems* or arrangements themselves, but by their *structures*. Structures enable systems and arrangements to be viewed as open. Only when we consider an organism over a shorter period of time, writes von Bertalanffy (1940, p. 34), does such a structure appear as a 'quasi-stationary system', which 'maintains itself steadily in the alternation of its components'. Also, growth itself, as a change of form, is part of the major problem field of systems because in open systems (unlike in closed systems), all (quasi-) stationary states as a whole or even the distinguishable subsystems are not reversible. So, there is a significant difference - both conceptually and linguistically (in *sayings* and *thinkings*) - between talking about a personality-system and a personality-structure (and this influences all doings and the understanding of (functional) *relatings* and *connectings*). Thinking solely in terms of systems, as Rombach (1971) suggests, results in *blindness to the origin* (source-

blindness) and overlooks possibilities for change, or in other words, it leads to functional thinking. Rombach (1971), notes that the crucial difference between structure and system lies in the fact that thinking in systems depicts the constitution without its dynamics. As long as systems are predominantly thought of under fixation, the (thinking in systems) *system* even falls back into the idea of *substance*. Only from the idea that humans are living *systems* does the further concept of humans as *individualizable substances* emerge, as if humans were *independently* alive and not dependent on communities nor on breathing. *Breathing* rather reveals a structure that lies behind the system and substance, showing a transition and transformation of (*thought of*) living and non-living structures. In many respects, it seems wiser not to overuse the modern concept of the *system* and thus not to overemphasize either *individuality* or *functionality*.

This insight is found in Urie Bronfenbrenner's *developing person* (1979) and in Carl R. Rogers' *becoming a person* (Rogers, 1956b). Becoming a person means „change appears to come about through *experience* in a *relationship*“ (Rogers, 1956a p. 10). Only *being-in-representation* in connection with *experience* (*connectings* coming from connectedness) changes *structures*, thus also changes *practices*.

Schatzki (2016) refers to all statements about the fundamental *constitution* and *structure*, about the dimensions or elements of a particular phenomenon or related domain, as *ontologies*, which often fall out of the focus of social theories. This highlights how the structure and deducible constitution are made explicit. In essence, macro phenomena have the same *structure* as micro or local phenomena and are, in turn, configurations of bundles of micro- and meso-phenomena on-site. However, once we think beyond the abstract, *systems* emerge as constellations of bundles forming larger bundles, which can only be assumed and argued through abstract perspective. All observable and living arrangements and settings consist of bundles of experiential practices. The difference between smaller and larger bundles (micro-macro) is also a difference between indirectly and directly experiential (and visible) ones, the phenomenological difference between distance and proximity, and the experiential difference between the concrete and the abstract. The respective evaluation is an assessment based on *comparisons*, *similarities*, and *differences*. The separation of the individual and the system (society) is thus not equivalent to the individual and a structure, which constitutes a shortcut.

Hence, human activities are always activities of developing persons, who simultaneously belong to a set of organized activities, which, however, are again more *community* or *society-oriented* – from the general and abstract to the particular and concrete, and vice versa.

Mentoring practices „are nested within other educational practices“, notes Heikkinen (2020, p. 33). In *mentoring*, the focus lies on shaping our genuinely experienced human relationships, always in relation to the abstractly experienced systems that often exhibit hierarchical tendencies. How can mentoring interconnect different arrangements and goal frameworks to sustainably ensure the resilience and vitality of qualification, promotion, induction, and development within the mentoring process in the long term? Nested *systems* refer to the relationship between systems within one or across multiple *structures* in *one*

structure. The consideration of nested systems enables capacities for systems thinking. In the context of practice theory, it's about (different variations of) *embeddings* and how *structures* are conceptualized and imagined through systems and systematizations.

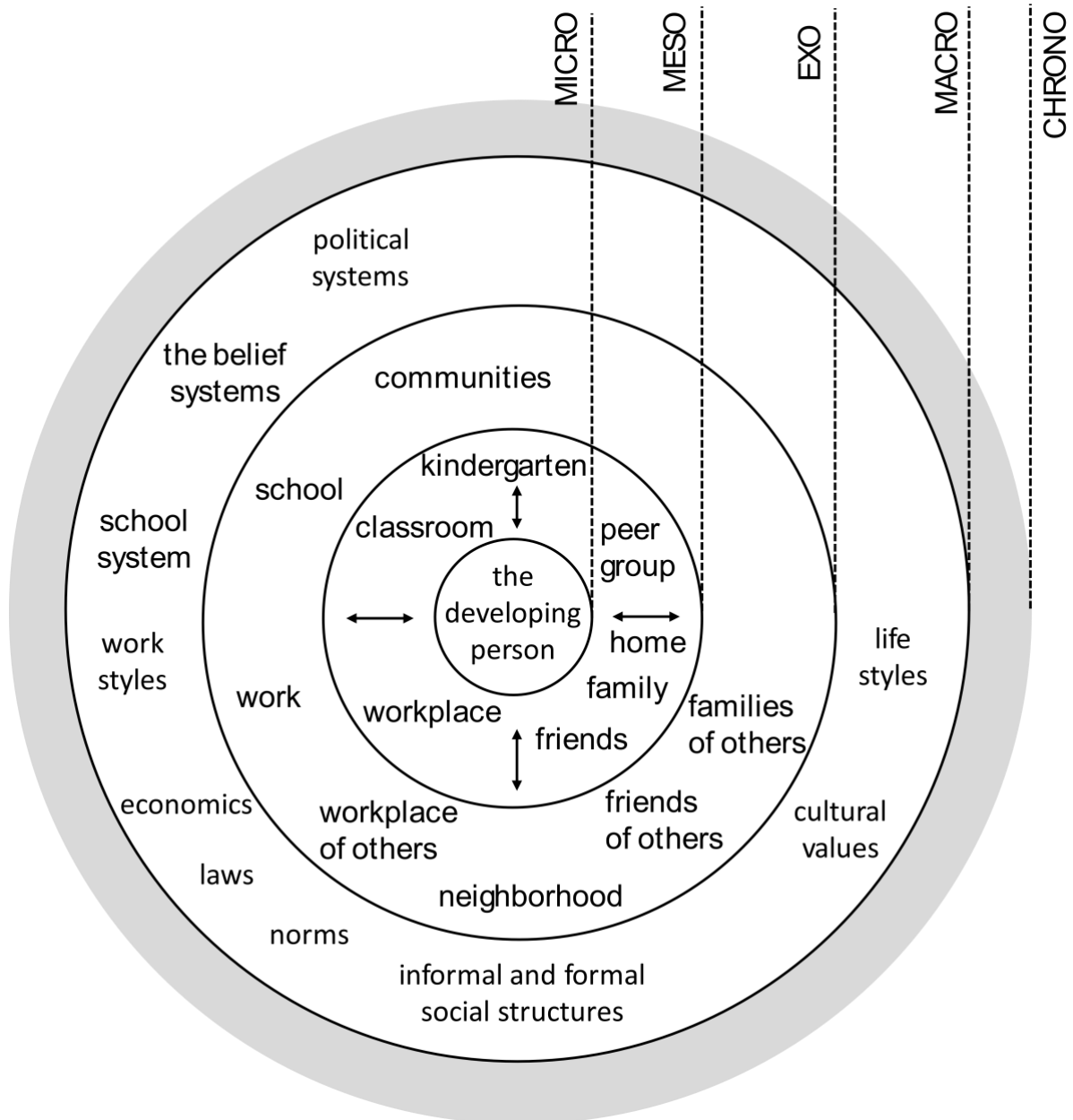


Figure 7: The illustration of micro-macro phenomena according to Bronfenbrenner can be thought of as a flat bundle of practice arrangements, which allows for the particular demonstration of the concrete and the abstract within a structure (self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004)

A specific understanding is crucial here: until the *mesosystem*, systems consist of *microsystems*. Or „in other words, a mesosystem is a system of microsystems” (Bronfenbrenner, 1992, p. 227). Therefore, the mesosystem shapes the connections between observable settings and abstract systemizations. However, the developing person can only

truly be nurtured by and through people within and up to the (concrete) mesosystem (*communities*). On the other hand, the mesosystem is laying the groundwork for the initial manifestations of societies as more abstract systemizations (through *thinkings*). Abstract systemizations introduce *levels*, but fundamentally, there are no higher, larger, or better levels present. This gives rise to the relevance of *mentoring*. In terms of practice theory, we can refer to these as *nestings* or *embeddings*.

2.2.3 Interdependence

No individual organism can exist in isolation. [...] Sustainability always involves a whole community. This is the profound lesson we need to learn from nature. [...] Life did not take over the planet by combat but by cooperation, partnership, and networking (Capra, 2005, p. 24).

The sustainability of different practices (understood as different species of practice, manifested in reality in particular individual instances of that practice) is dependent on other practices in an ecology of practices (understood as an ecosystem), and the sustainability of this ecology of practices is dependent upon its relationships with other ecologies (Kemmis, 2022, p. 135).



Figure 8: Interdependence
(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004)

„If practices are living things [...], then different practices (understood as different species of practice) will be dependent on one another in ecologies of practices” (understood as an ecological structure), observes Kemmis et al. (2012, p. 42), hence „the relationships between the various nodes in the network composed by the complex of practices in education (including, among others, practices of leadership, professional development, teaching and learning) are relationships of interdependence.”

All „educational practices, like mentoring and induction, are dependent upon one another” (Heikkinen, 2020, p. 37), as well as on their relationships with the processes and practices of the broader communities and societies in which they exist (see Figure 8).

Thus, in one school, the notion of the learning community may be slower to be realised in the professional development work within the school [...], while, in another, professional learning is seen explicitly as a shared responsibility of the whole staff (Kemmis et al., 2012, p. 43).

Interaction, communication, and punctuation, along with all forms of practices, fundamentally stimulate „the evolution of a concept of interdependence, an important step in cognitive development” (Bronfenbrenner, 1979, p.57).

Overall, the „interdependence” (Watzlawick et al., 1967, p. 29) between the person and their surroundings and *the person-to-person-relations* remained „a neglected field of [...] inquiry”, and it is precisely in this context that the concept of interactional and communicational exchange „becomes indispensable”. The expressions „of life are evidently distinguished by both stability and change” (p. 31), thus highlighting the importance of considering the „specific forms of interdependence or complementarity” in research endeavors. According to Heikkinen (2020, p. 33), the focus lies on „how mentoring can be organized depends on how other educational practices exist and function within that ecosystem.” In terms of practice theory, we can refer to these as *interrelatings*.

2.2.4 Cycles

A conflict between economics and ecology arises because nature is cyclical, while industrial processes are linear (Capra, 2005, p. 25).

It is possible to observe some kind of matter cycling through practices (Kemmis, 2022, p. 136).

People engage in a cyclical process involving the practices of leadership, professional development, teaching, and learning, collectively forming „the complex of practices of contemporary school education” (Kemmis et al., 2012, p. 44). Subsequently, each new teacher becomes immersed in the school's practice traditions, national standards, and the national educational culture. Simultaneously, every new teacher also brings their own, as yet unadapted practices, as well as a *culture of teaching* that is not yet fully integrated. Every new teacher becomes part of the school's practice traditions, national standards, and the national educational culture (Nehfort, 2022). From and through such practices, all teachers can learn, embracing diversity. When a new practice arises, it consists of elements or characteristics from previous practices that are then reintegrated and recirculated as part of the new composition (Kemmis & Heikkinen, 2012). Therefore, it is always possible to observe some

form of *cycling* through practices and specific kinds of ideas (See Figure 9). According to Kemmis (2022, p. 135), it is about how „cycles through chains of practices is the *sayings*, *doings*, and *relatings* that constitute each practice, and that also function as practice architectures shaping other practices in the complex”. In practice theory, it revolves around *sequential enactings* or *cyclings*.

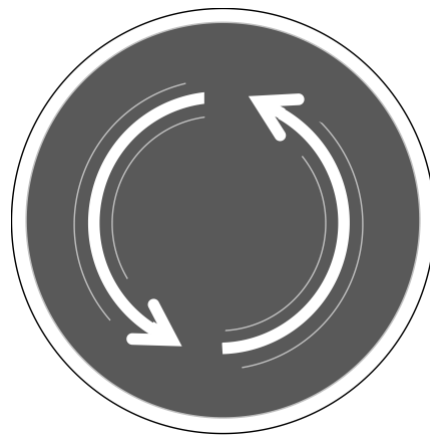


Figure 9: Cycles

(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004; in reference to Boehnert, 2013, p. 449)

Circulation is evident in various *practices of supporting new teachers*, with some cycles and developments being emphasized more than others, leading to the formation of habits and beliefs in relation to the *concepts of support (carings)* that do not necessarily correspond to a *dynamic balance*. In this manner, every *feedback loop* constitutes a circular configuration of interconnected elements, wherein something *feeds back* into the initial element of the cycle, altering the initial understanding. Thus, the *cycle* resembles more of a *spiral*, as it modifies something, and the subsequent feedback loop assumes a different standpoint than before. While the initial state of a *network* is often believed to be actively influenced and selected, over time, organized patterns spontaneously emerge. This phenomenon, commonly referred to as spontaneous emergence, is better understood as *fulguration* (a sudden burst) followed by subsequent *development*.

Another aspect is the phenomenon of „*hypercycles*” (Capra, 1996, p. 92), which refers to the convergence of „*multiple feedback loops*”. Particularly in mentoring, the often highly diverse *concepts of support* can lead to hypercycles if the interplay of these concepts is not well considered – in that case, a *balance* is not possible. In hypercycles, each loop can create a link and form another, previously unknown and new cycle of learning as well as practices. On a more grounded level, every complex practice, which comprises many different practices and is not linear, is essentially formed by *hypercycles*, hence hypercycles can sustain and conserve complex *living practices*.

„When new mentoring practices emerge, they are composed of elements or features of previous educational practices that are being circulated in a new kind of composition, e.g.

peergroup mentoring evolved from traditional mentoring” (Heikkinen, 2020, p. 33). Many *learning processes* within *mentoring* represent phenomena akin to Orr's concept of interlocking *cycles* or *hypercycles*, which can be facilitated or hindered across various arrangements. Such circular learning processes foster *stability* while concurrently *optimizing* and changing *knowledge* without necessarily requiring personal growth through a specific arrangement (see Figure 3). Additionally, these processes connect (formally) the local with the regional and the global (see Figure V). The question then arises: How can such circular processes (*cyclings*) be promoted?

2.2.5 Flows

All living systems, from organisms through ecosystems, are open systems. [...] We are therefore dependent on a constant inflow of energy [both through relationships with others and intellectually as stimulation] (Capra, 2005, p. 26).

The energy that drives the happening (unfolding) of practices flows through an ecology of practices, changing other practices as it connects with them (Kemmis, 2022, p. 136).



Figure 10: Flows

(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004; in reference to Boehnert, 2013, p. 449)

„If practices are living things, then energy will flow through an ecology of practices”, notes Kemmis et al. (2012, p. 44), indicating the differentiation within this paper among „meaning (in the semantic dimension)”, „materiality (in the dimension of physical space-time)”, and (new) *relations* (societal), and *connectedness* (communities) through practices of leadership and professional development, teaching, and learning.

Von Bertalanffy (1940, p. 34) notes that any organism is not a closed but always an *open* system: ‘We call a system *closed* when nothing enters or exits it from the outside’. In the context of *mentoring*, it's about the *flow* through practices, which means how something like „semantic energy that flows through practitioners’ *sayings*’ in a practice” (Heikkinen, 2020,

p. 41), but also how social and prosocial energy flows through *relatings* and *connectings* (*connectedness*) in a practice. Additionally, the behaviors and actions need to be considered, which can be experienced both behaviorally and action-oriented, and are accessible beyond ‘sayings’ through imitation and emulation (through role modeling).

Flows can only be understood through *nonlinearity* and *points of instability*, which enable *transformative learning* (see Figure 10), precisely because seemingly stable systems characterized by stable forms still develop moments of flow and open progression. The „term *Fliessgleichgewicht* (‘flowing balance’)” expresses, for Capra (1996, p. 178), „the coexistence of balance and flow, of structure and change, in all forms of life.“ All „human communities” (p. 297) seem to be „living systems” with specific structures that exhibit „basic principles of organization” through *relatings* and *connectings*. As networks and nested systems, they appear organizationally closed, but they are (wide) open to the *flows* of energy (like sayings, behavioral doings, experiential doings), resources, and changing cultures – and they „are determined by their histories of structural changes” (p. 297–298). Once it is written that (somehow) energy *flows* (in some way or another) through *ecologies of practices* and the practices within them, being transformed from one kind of energy to another, then the essential relevance of this principle is lost, and the transformative becomes incomprehensible. Hence, there is no learning and no transformation of practices without *points of instability* (Wiesner & Prieler, 2020; Wiesner & Schreiner, 2019). Adaptation, learning, practices and their development are key characteristics of living beings. In the context of practice theory, we talk about *flowings* (flux).

„Physical energy flows through the ‘doings’, semantic energy flows through the ‘sayings’, and social energy flows through the ‘relating’ of the people involved in the *mentoring* practices” (Heikkinen, 2020, p. 33). Like raindrops appearing singly and sporadically on a surface, such as a window, during light rain, the paths of *flow* eventually converge, and the flowing finds a direction and a common current over time. This represents a vastly different form of learning compared to cycles, emphasizing growth (in German *Wachsenlassen*). In *mentoring*, *thinkings* (*sayings*) and *feelings* as well as *relatings* and *connectings* are often *transformatively* reshaped and redesigned, evolving through a process akin to personal growth through *flows*. Hence, *mentoring* prompts the question of how novelty and divergence can take shape through caring processes (*flowings*). Simultaneously, all processes of emulation and role modeling can be employed to foster one's own growth in this dynamic *flow*.

2.2.6 Development

All living systems develop, and all development invokes learning. During its development, an ecosystem passes through a series of successive stages, from a rapidly growing, changing, and expanding pioneer community to slower eco, logical cycles and a more stable fully exploited ecosystem (Capra, 2005, p. 26).

Practices develop through stages, and an ecology of practices also develops through stages (Kemmis, 2022, p. 137).

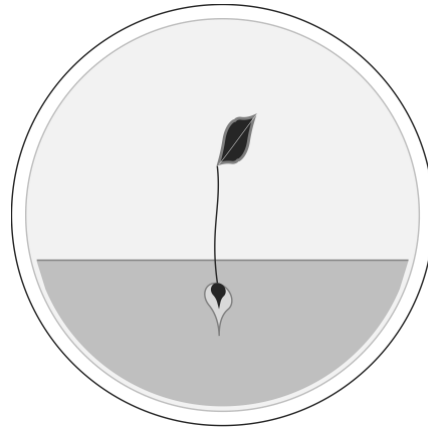


Figure 11: Development

(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004; in reference to Boehnert, 2013, p. 450)

Mentoring „as a part of the induction arrangements for new teachers“ is, according Heikkinen (2020, p. 42), evolving and developing „within wider ecologies of practices“. If „practices are living things“, as Kemmis et al. (2012, p. 45) notes, then practitioners’ knowledge, abilities and responsibility „develop as they become more familiar with and more accomplished in the practice“.

Development particularly occurs within the *living structure* (mostly) at „critical points“ (Capra, 1996, p. 191), and every „living structure is always a record of previous development“ (see Figure 11). Only the *process of development* is pushing the system and the underlying, fundamental structure from one basin of stability into another. Structural changes in a living system involve the creation of new structures, including new connections and altered internal dynamics within a network.

These changes are more *developmental* in nature rather than merely cyclical. It goes beyond learning through feedback; it involves transformative learning, which undergoes a more comprehensive change through feedback. The process of development becomes more morphologically understandable than through analytical thinking. The feedback rather becomes a *feedforward* (as an impulse of growth) or, in other words, in reference to the Austrian philosopher Franz Fischer (1985), it is about learning and changing practices through *proflexion* (Wiesner et al., 2020), not through *reflection* (as in cyclical or cyclical-spiral learning), as it leads to a *fulguration* (as a sudden burst of change). The environment only triggers the structural changes and internal dynamic, „it does not specify or direct them“ (Capra, 1996, p. 219). *Proflexion* entails shaping practices today in the manner one desires to have shaped them tomorrow, rather than conforming to how one believed they should have been shaped yesterday. In relation to practice theory, we refer to these as *becomings*.

„Different stages of development can be seen in the development of mentoring practices”, notes Heikkinen (2020, p. 33). In *mentoring*, the aim is to carefully observe through awareness and learn from developmental processes to provide effective caring and supporting, enabling more flexible and resilient approaches to dealing with change through continuous learning and *transformation*. Ecological learning enables us in mentoring to utilize awareness and capacities to respond to developmental challenges (*becomings*).

2.2.7 Diversity

The more complex the network's patterns of interconnections are, the more resilient it will be. Diversity means many different relationships, many different approaches to the same problem (Capra, 2005, p. 25).

An ecology of practices includes many different practices with partially overlapping ecological functions that can partially replace one another (Kemmis, 2022, p. 135).



Figure 12: Diversity
(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004)

From an ecological perspective, this implies more than just differences, it also involves the „distribution of entities in time and space” (Kemmis et al., 2012, p. 43). „If practices are living things”, then from this ecological standpoint, it implies the inclusion of many *diverse* and overlapping practices that are intertwined and yet can partially substitute for one another. „A diverse ecosystem will be resilient” (Capra, 2005, p. 25) because it contains many forms of practices with „overlapping ecological functions that can partially replace one another. This results in the emergence of *various* and *diverse* forms of learning that complement each other. Also, the theory of Bronfenbrenner (1979, p. 232) suggests that *variations* among persons and groups lead to broader aspects of „differences in development” that can be *integrated* (into the personality).

Reflecting on *diversity* enhances the *richness of practices, role repertoires*, and patterns of prosocial and social interaction and communication as personal progress towards *becoming a*

person (becomings) and a *teaching person* (see Figure 12). In teacher induction, Heikkinen (2020, p. 38) observes that many practices appear to co-exist and overlap with one another. Diversity refers to the variety, or the inherent multiplicity, of the world, persons, and things, as well as the variability of the world, persons, and things (Prenzel, 1993; Wiesner & Zechner, 2023). The concept of *incommensurability* specifically asserts that the multiplicity of the world and the plurality within cannot be systematized into hierarchies or deduced from a single principle or framework. Integration always starts from diversity and thus from differentiability. Hence, a single framework in relation to diversity is always insufficient; in *mentoring*, there must be *coaching*, *tutoring*, and *training*, as well as *guidance* (Bartonek & Ziegler, 2020; Wiesner, 2010; Wiesner & Dammerer, 2020), but the concept of *coaching* predominates in mentoring due to its emphasis on *prosociality* (communities).

Therefore, there are „also informal and spontaneous ways to support new teachers in creating diversity“ – as described in particular by Dammerer (2020) and Dammerer & Ziegler (2022). The various and diverse *concepts of support* (in German *Konzepte der Begleitung*) represent *diversity* within mentoring itself and should be viewed from this perspective. There are „different practices in the educational ecosystem that can partially replace one another, such as mentoring, tutoring, coaching, supervision, guidance and counselling“ (Heikkinen, 2020, p. 33; see Figure 4). In relation to practice theory, we refer to these as *diversifying*s.

2.2.8 Dynamic Balance

All ecological cycles act as feedback loops, so that the ecological community continually regulates and organizes itself. When one link in an ecological cycle is disturbed, the entire cycle brings the situation back into balance, and since environmental changes and disturbances happen all the time, ecological cycles continually fluctuate (Capra, 2005, p. 28).

An ecology of practices regulates itself through processes of self-organisation and, up to some breaking point, maintains its continuity in relation to internal and outside pressures (Kemmis, 2022, p. 137).

The „principle of dynamic balance is one of the most interesting in terms of the evidence“ of the studies of Kemmis et al. (2012), p. 46; see Figure 13). Therefore, Heikkinen (2020), p. 43) writes that „living systems are not static“, rather, they are „in a dynamic balance.“ But *systems* tend to appear as stable, inflexible, and persistent, unlike *structures*, because systems always seek to convey security and stability. Systems maintain their respective and attributed functionality. Understanding balance solely as equilibrium creates the notion of persistence. Only with the so-called *functional-structural system theory* as a „conceptual apparatus is it possible to treat any given society as an approximation to an *equilibrium*“ (Davis, 1949, P. 634). A *society* in equilibrium could only exist in an eternal, unchanging present. Therefore, a

living community is needed to enable *balance*. One adapts to a system assimilatively, while development is an accommodative process achieved through balancing.

However, it is not always the case that a balance develops; instead, it is also often the case that dynamic balance cannot be develop (*out of balance*). Balance here aims to indicate that *living systems* can be „characterized by constant change, as are practices in the day-to-day life of a school or a classroom“ – but „only within limits“ and in particular, this statement is to be emphasized. Mostly, *living structures* bring themselves back into balance through creating new internal *coherence* when they encounter „crisis points, resistance, critical incidents, confusion, instability, lack of flexibility and disturbance“ (p. 43; Wiesner & Gebauer, 2023; Wiesner & Schreiner, 2019). Structures can change, systems can fail. Here, there is a clear and distinct similarity to attachment theory, in which the so-called secure attachment is essentially a *balancing attachment*, as discussed by Wiesner & Gebauer (2023).



Figure 13: Development

(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2004; in reference to Boehnert, 2013, p. 451)

[T]he plausibility of interpreting practices as living things that together form ecologies of practices has led us to conclude, first, that the broad practices we are studying – leadership, professional development, teaching and learning – do appear to behave as living systems, and, second, that the complex of practices that together constitute contemporary school education can be understood as an ecosystem in which these practices relate to one another in ecologies of practices (Kemmis et al., 2012, p. 47).

Furthermore, as von Bertalanffy (1940), p. 34) already noted, „we immediately see, however, that while differentiable systems in the organism, which are in equilibrium, it cannot itself be considered as a system in equilibrium.“

„If practices are living things“, writes Kemmis et al. (2012), p. 45), then „ecologies of practices will regulate themselves“ (if they can) and (as an extended consideration) they will maintain their *continuity* and *coherence* in relation to internal and outside world (but only up

to some breaking point). Regarding the ecologies of practices, the dynamic balance will be formed through relating *and* connectings between practices „as they happen” (Schatzki, 2006, p. 1866). In *mentoring*, the focus is on understanding how to support mentees and mentors to remain adaptable, resilient, and open to new ideas. In the context of practice theory, we talk about *balancings*.

3 Outlook for future developments

In a forward-looking perspective, it can now be assumed that mentoring requires *systemic thinking*. However, this approach leads more to *systematic* thinking in and with systems regarding *networks (connectings)* and *nested systems (nestings)*. This form of thinking enables the recognition of practices within practices, as well as bundling of practices into bundles of practices. The interplay, interconnectedness, and interrelation of practices and their *arrangements* in lived experiences and conceptualized systems are the focus.

This worldview represents the *first* dimension of *ecoliteracies* in mentoring (see Figure 14), as it establishes a connection between two previously mentioned abilities (see Figure V). So it is about *connectings* and *nestings* in the field of practice, specifically in relation to mentoring. Essentially, networks change based on the foundations of *structures* and not through systems. Systems initially serve as stabilizing domains for networks, but their boundaries are adjustable, expandable, or contractible depending on the constellation of *networks* and *arrangements*. It is a unique synthesis that allows us to adopt a higher form of analytical thinking, enabling the recognition of *arrangements*.

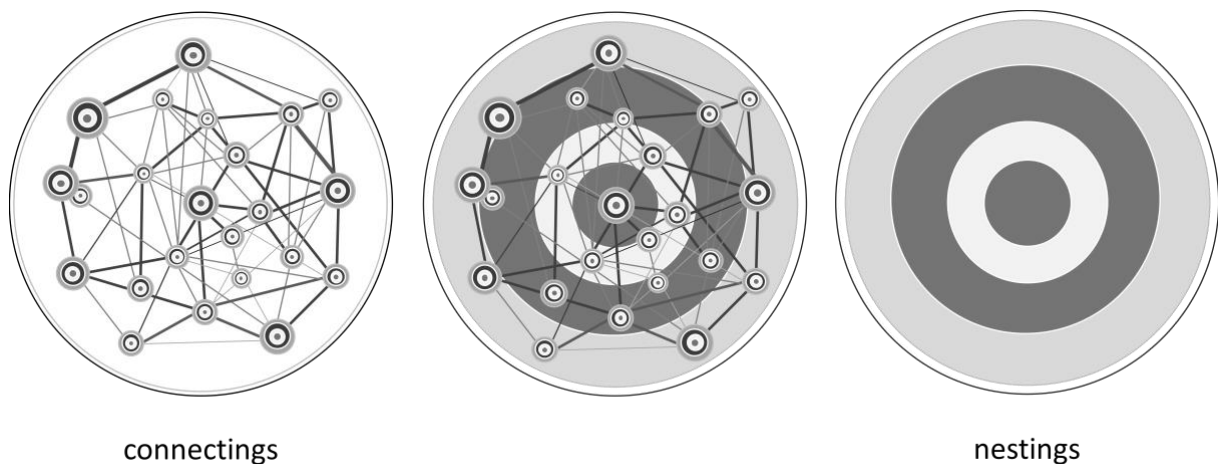


Figure 14: Synthesizing connectings and nestings: A Gestalt Approach
(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2024)

The *second* dimension of *ecoliteracies* emphasizes the *possibilities of learning* (see figure 15), thus highlighting *cyclings* and *flowings*. It becomes evident that *intentionality* is always involved (Wiesner et al., 2024), just as there is no hearing without something being heard,

there are no mentors without mentees. There is no support without supporters. The more diverse and communal mentoring takes place, the more likely a beneficial concept of support (*carings*) will be realized. A lot of things cannot be learned only through *cyclings*, despite feedback and support; rather, it often involves *flowings*, which entail *letting grow*, representing a fundamentally different form of learning than that facilitated by *cyclings*. In *flowings*, our coaching ability is challenged in *mentoring*, while *cyclings* focus on guidance and training (see Figure c). *Cyclings* and *flowings* complement each other and yet are not the same. *Cyclings* energize into *flowings*; however, when viewed individually (and as systems), they are merely routines and rules that organize something. The arrangement determines the respective organization, the direction of rotation, and the interaction of the different cyclings, which always move and change within the flowings. A bundle of cyclings leads to the mentioned *hypercyclings*, but it is only understandable through the *flowings*. The *flowings* move across and through the *structures*, shaping and reshaping themselves, thus enabling *development*. The productive and fabricating thinking is based on *cyclings*, whereas inventive and creative thinking, on the other hand, relies on *flowings*. Thus, we once again establish a connection to the *concepts of support (carings)* in Mentoring.

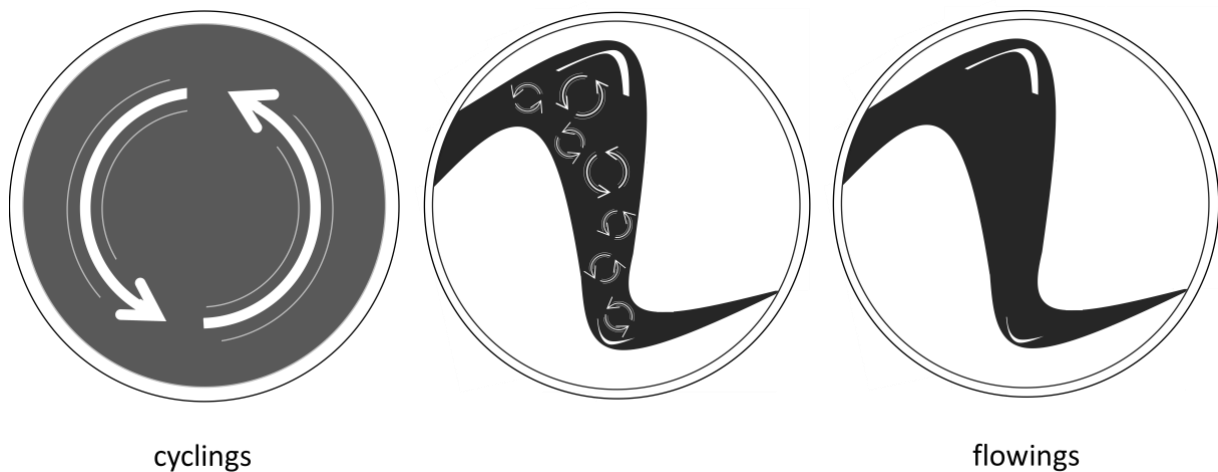


Figure 15: Synthesizing cyclings and flowings: A Unified Approach
(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2024)

The *third* dimension of *ecoliteracies* in mentoring is the synthesis of *interrelatings* (interdependence) and *diversifyings* (diversity), thus the experienced, conceptualized interdependence through sayings, doings, relatings, and connectings, as no person developing spatially, temporally, and materially throughout their lifespan can live entirely alone or in isolation from the world (see Figure 16). The foundation is cooperation, partnership, and networking, and therefore the *community*, in which being together is shaped *pro-socially*. We are always in relationship with the world, including people, plants, animals, and all other things. We breathe the so-called lifeless to be alive. In *mentoring*, we need mentors and mentees who grow with and towards each other, thereby giving special significance to *cyclings* and *flowings*.

The *interrelatings* clearly point to the phenomenon of *community*, encompassing all forms of *learning communities*, in which diversity (*diversifyings*) represents a unique feature contributing to the richness of perspectives and repertoires. In us and around us, much like breathing. It's about recognizing and embracing diversity within the experiential interrelations, in order to, in a world of diversity, once again embrace all possible interrelations beneficially.



Figure 16: Synthesizing diversifyings and interrelatings: A Comprehensive Integration
(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2024)

The *fourth* dimension of *ecoliteracies* in mentoring is characterized by the understanding that successful and vibrant *development* always requires a *dynamic balance*, which involves attentive and careful consideration of *becomings* and *balancings* (see Figure 17). *It's a unique synthesis.*



Figure 17: Synthesizing becomings and balancings: Cultivating Equilibrium
(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2024)

Every dynamic balance is built on a secure attachment, implying a *trusting* relationship that is allowed to move dynamically, thus withstanding criticism and conflicts to foster *development*. Relationship breakdown, avoidance, and unresolved conflicts result in developmental barriers, which can only be overcome through new forms of *balancings* and trust in *flowings*, leading to new and different *corrective experiences* of enrichment and growth.

This *synthesis* connects the *balance of mentoring* with its most essential task: *development*. Such developments are significantly shaped by growth, vigilance as a person, growth through *flows*, and growth through inner, vividly experienced *interdependence (interrelatings)* and lived, as well as internalized, *diversity (diversifyings)*. Only from a balanced perspective of development can a comprehensive understanding of *networks* with many and diverse *nested systems* be developed. This insight is crucial and defining for the phenomenon of *mentoring* (see Figure 18).

The understanding of *becomings* and *balancings*, in turn, relies on *connectings* and *nestings*, thus closing the cycle through *cyclings*, which essentially still moves within a flow and is constantly changing in the process through *flowings*, *interrelatings*, and *diversifyings*. *Connectings* hold all ecoliteracies together, forming different syntheses and thereby enabling the concept of *literacies* as a whole (Wiesner et al., 2024; Wiesner & Prieler, 2023), which allows for an understanding of capability, flows and intentionality beyond the concept of competence (Wiesner & Prieler, 19-52).



Figure 18: connectings and nestings: networks in nested systems
(self-drawn by Wiesner, Dammerer, Zeilinger and Ziegler, 2024)

Through *visualizations*, in the spirit of Wittgenstein (1974, p. 6), four *impactful figures* (in German *einprägsame Figur*) remain, representing the concept of *ecoliteracies* in mentoring. According to Ludwig Wittgenstein (1889–1951) *visualization* can lead to role models (or guiding models and new paradigms; in German *Vorbild*), not just representations of theory (in German *Abbild*). Instead, images and figures can give rise to new insights. Images and figures are instruments (more akin to instruments in music) and display the results and events of *processes* (more than the written word; Wiesner et al., 2024). From this paper and in relation to mentoring, we can draw the following conclusions in words:

- *The Importance of Relationships*: Mentoring is a dynamic process based on relationships. These relationships are characterized by mutual support, trust, and development. A particular approach to this has been presented by Wiesner and Gebauer (from 2020 to 2023) with the theory of being-in-relation, which they have also adapted for mentoring.
- *Systemic Thinking as systematic thinking*: Mentoring requires systemic thinking as well as systematic thinking to understand and promote the diverse interactions and relationships within the mentoring process. Systematic thinking encompasses thinking in systems and structures, whereby dynamic networks are considered, whose connection is not hierarchically understood, but rather, systems in the networks are attributed a more or less agreed-upon hierarchy through the lived practices.
- *Diversity and interdependence*: Recognizing and integrating diversity is crucial for successful mentoring. Mentoring should support and promote all types of diversity to create interrelated surroundings. The diversity of learning lies within the cycles and flows of the learning processes.
- *Development Promotion*: Mentoring aims to promote the development of mentees by enabling them to grow, unfold, and discover their potential. Becoming and being a teacher means developing a person.
- *Importance of Balance*: A dynamic *balance* between different elements such as relationships, development promotion, and systematic thinking is crucial for a fulfilling mentoring. Balance always refers to the lived relationships with the world and is precisely detailed in the so-called working model of attachment theory, as found in the work of Wiesner and Gebauer (2020 to 2023). A crucial element in this regard is an understanding of balance that is not equated with equilibrium or simply self-organisation. *Equilibrium* relies on diverse forms of balance but is not synonymous with balance itself. Balance entails more than simply maintaining equilibrium, as it requires proactive coordination that draws upon experiences and is contingent upon the world as experienced. Specifically, balance is shaped by experiences, characterized by memories (episodes), rather than mere rote memorization. Balance pertains to the maintenance, preservation, and alteration of equilibrium, as exemplified in the act of walking. Walking, locomotion, and thus progress would not be feasible within the confines of a static equilibrium.
- *The field of practices*: Mentoring balances various concepts of support (carings) and yet has a closeness, or better, a family resemblance to coaching, which brings practices to the forefront. However, not solely the productive and fabricating practices, but especially the open and therefore still inventive approaches that do not yet rely on routines and rules. This points to the vitality of life and the discovery of one's own paths.

In summary, mentoring is a complex and multifaceted practice based on relationships, diversity, development, and achieving a balanced equilibrium. A deeper understanding of these aspects can contribute to improving mentoring and promoting positive developments in mentees. In mentoring, the focus is always on the developing person who is becoming a teacher.

Sources

- Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, N. R. (Hrsg.). (1969). *The Authoritarian Personality*. Norton.
- Bartonek, S., & Ziegler, V. (2020). Tutoring und Coaching in Abgrenzung zu Mentoring in der Phase des Berufseinstiegs von Lehrpersonen [Tutoring and coaching, as distinct from mentoring, during the phase of entry into the teaching profession]. In J. Dammerer, C. Wiesner, & E. Windl (Hrsg.), *Mentoring im pädagogischen Kontext: Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir bilden* (S. 187–198). Studienverlag.
- Bateson, G. (1972). *Steps to an ecology of mind* (Edition 2000). University Press.
- Boehnert, J. (2013). Ecological Literacy in Design Education: A Foundation for Sustainable Design. In J. B. Reitan, P. Lloyd, E. Bohemia, L. M. Nielsen, I. Digranes, & E. Lutnæs (Hrsg.), *DRS Cumulus Oslo 2013. Design Learning for Tomorrow. Design Education from Kindergarten to PhD* (S. 442–457). Oslo and Akershus University College of Applied Sciences.
- Boehnert, J. (2018). Ecological theory in design: Participant designers in an age of entanglement. In R. B. Egenhofer (Hrsg.), *Routledge handbook of sustainable design* (S. 86–97). Routledge.
- Brim, O. G. Jr. (1975). Macro-structural influences on child development and the need for childhood social indicators. *American Journal of Orthopsychiatry*, 45(4), S. 516–524.
- Bronfenbrenner, U. (1974). Developmental Research, Public Policy, and the Ecology of Childhood. *Child Development*, 45(1), 1–15.
- Bronfenbrenner, U. (1976). The Experimental Ecology of Education. *Educational Researcher*, 5(9), S. 5–15.
- Bronfenbrenner, U. (1977). Toward an Experimental Ecology of Human Development. *American Psychologist*, 32(7), S. 513–531.
- Bronfenbrenner, U. (1979). *The Ecology of Human Development. Experiments by Nature and Design*. Harvard University Press.
- Bronfenbrenner, U. (1992). Ecological System Theory. In R. Vasta (Hrsg.), *Six Theories of Child Development. Revised Formulations and Current Issues* (S. 187–251). Kingsley.
- Brugger, W., & Schöndorf, H. (2010). *Philosophisches Wörterbuch* [Philosophical Dictionary]. Alber.
- Bühler, C. (1932). *Der menschliche Lebenslauf als psychologisches Problem* [The Human Lifespan as a Psychological Issue] (Auflage 1959). Hogrefe.
- Capra, F. (1996). *Web of Life. New Scientific Understanding of Living Systems*. Anchor.
- Capra, F. (2005). Speaking Nature's Language: Principles for Sustainability. In M. K. Stone & Z. Barlow (Hrsg.), *Ecological Literacy. Educating Our Children for a Sustainable World* (S. 18–29). Sierra.
- Carl, M.-O., & Feldhaus, A. (2017). Landkarte Mentoring. Eine Systematisierung offener Forschungsfragen [Mentoring Map: Systematization of Open Research Questions]. In V. Stein, M.-O. Carl, & J. Küchel (Hrsg.), *Mentoring—Wunsch und Wirklichkeit: Dekonstruktion und Rekontextualisierung eines Versprechens* (S. 21–36). Budrich.
- Colley, H. (2003). *Mentoring for social inclusion: A critical approach to nurturing mentor relationships*. RoutledgeFalmer.

- Dammerer, J. (2020). Mentoring für beginnende Lehrpersonen – ein Instrument der Personalentwicklung [Mentoring for Novice Teachers – An Instrument of Personnel Development]. In J. Dammerer, C. Wiesner, & E. Windl (Hrsg.), *Mentoring im pädagogischen Kontext. Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir bilden* (S. 59–71). Studienverlag.
- Dammerer, J., & Ziegler, V. (2022). Wenn jeder dem anderen helfen wollte, wäre allen geholfen – Informelles und formelles Mentoring in der Induktionsphase [If everyone wanted to help each other, everyone would be helped – Informal and Formal Mentoring in the Induction Phase]. In C. Wiesner, E. Windl, & J. Dammerer (Hrsg.), *Mentoring als Auftrag zum Dialog: Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir interagieren*. (S. 195–209). Studienverlag.
- Davis, K. (149). *Human Society*. MacMillan
- Eisenschmidt, E. (2006). *Implementation of Induction Year for Novice Teachers in Estonia. Abstract*. Tallinn University.
- Fischer, F. (1985). *Proflexion – Logik der Menschlichkeit* [Proflexion – Logic of Humanity]. Löcker.
- Gebauer, M., & Wiesner, C. (2022). Being-in-the-world: Understanding attachment theory and learning as being-in-nature. *Annual of Educational Studies. Sofia University St. Kliment Ohridski*, 111(3), 9–51.
- Goodlad, J. I., & Richter, M. N. Jr. (1966). *The Development of a Conceptual System for Dealing with Problems of Curriculum and Instruction. Project No. 454. USOE Cooperative Research Program of the Office of Education. U. S. Department of Health, Education, and Welfare. Report*. University of California.
- Hachmann, G., & Koch, R. (2016). 150 Jahre Ökologie – eine Naturwissenschaft prägt den Naturschutz: Anmerkungen zur Geschichte und Verwendung der Begriffe „Ökologie“ und „Artenschutz“ [150 Years of Ecology – A Natural Science Influences Conservation: Notes on the History and Use of the Terms Ecology and Species Conservation]. *Natur und Landschaft*, 91(12), S. 587–589.
- Haeckel, E. (1866). *Generelle Morphologie der Organismen. Allgemeine Grundzüge der organischen Formen-Wissenschaft, mechanisch begründet durch die von Charles Darwin reformirte Descendenz-Theorie. Zweiter Band: Allgemeine Entwicklungsgeschichte der Organismen. Kritische Grundzüge der Mechanischen Wissenschaft von den Entwickelten Formen der Organismen, begründet durch die Descendenz-Theorie* [General Morphology of Organisms. General Principles of Organic Morphology, Mechanically Explained by the Descended Theory Reformulated by Charles Darwin. Volume Two: General Developmental History of Organisms. Critical Principles of the Mechanical Science of Developed Organism Forms, Founded on the Theory of Descent]. Reimer.
- Heikkinen, H., Jokinen, H., & Tynjälä, P. (2008). Reconceptualising Mentoring as a Dialogue. In G. Fransson & C. Gustafsson (Hrsg.), *Newly Qualified Teachers in Northern Europe. Comparative Perspectives on Promoting Professional Development* (S. 107–124). University of Gävle.
- Heikkinen, H. L. T. (2020). Understanding Mentoring Within an Ecosystem of Practices. In *New Teachers in Nordic Countries—Ecologies of Mentoring and Induction* (S. 27–47). Cappelen Damm Akademisk/NOASP.
- Hofmann, F. (2017). Wie wird man ein Könnner?: Überlegungen zur Struktur von Fort- und Weiterbildung zur Entwicklung von Könnerschaft [How to Become Personal Mastery: Considerations on the Structure of Continuing Education and Training for the Development of Expertise]. *Zeitschrift für Bildungsforschung*, 7(2), S. 147–164.
- Jokinen, H. L. T., Morberg, Å., Poom-Valickis, K., & Rohtma, V. (2008). Mentoring Newly Qualified Teachers in Estonia, Finland, and Sweden. In G. Fransson & C. Gustafsson (Hrsg.), *Newly Qualified Teachers in Northern Europe. Comparative Perspectives on Promoting Professional Development* (S. 76–106). University of Gävle.

- Keller-Schneider, M. (2023). Rollengestaltung im Mentoring der Berufseinführung in der Schweiz [Role Design in Mentoring for Professional Integration in Switzerland]. In J. Dammerer, C. Wiesner, & E. Windl (Hrsg.), *Mentoring als Möglichkeitsraum. Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir gestalten* (S. 243–267). Studienverlag.
- Kemmis, S. (2022). *Transforming Practices: Changing the World with the Theory of Practice Architectures*. Springer.
- Kemmis, S., Edwards-Groves, C., Wilkinson, J., & Hardy, I. (2012). Ecologies of Practices. In P. Hager, A. Lee, & A. Reich (Hrsg.), *Practice, Learning and Change* (S. 33–49). Springer Netherlands.
- Kemmis, S., & Grootenboer, P. (2008). Situating praxis in practice. Practice architectures and the cultural, social and material conditions for practice. In S. Kemmis & T. J. Smith (Hrsg.), *Enabling Praxis: Challenges for Education* (S. 37–62). Brill.
- Kemmis, S., & Heikkinen, H. L. T. (2012). Future perspectives: Peer-group mentoring and international practices for teacher development. In H. L. T. Heikkinen, H. Jokinen, & P. Tynjälä (Hrsg.), *Peer-Group Mentoring for Teacher Development* (S. 144–170). Routledge.
- Kemmis, S., & Mutton, R. (2012). Education for sustainability (EfS): Practice and practice architectures. *Environmental Education Research*, 18(2), S. 187–207.
- Kemmis, S., Wilkinson, J., Hardy, I., & Edwards-Groves, C. (2009). Leading and Learning: Developing Ecologies of Educational Practice. *Paper Presented from the Charles Sturt University, School of Education, Wagga Wagga, NSW at a Symposium: Ecologies of Practice at the Annual Meeting of the Australian Association for Research in Education, Canberra, Australia.*, S. 1–9.
- Levinson, D. J., Darrow, C. M., Klein, E. B., Levinson, M. H., & McKee, B. (1976). Periods in the Adult Development of Men: Ages 18 to 45. *The Counseling Psychologist*, 1(6), S. 21–25.
- Levinson, D. J., Darrow, C. M., Klein, E. B., Levinson, M. H., & McKee, B. (1979). *The seasons of a man's life*. Ballantine Books.
- Mannheim, K. (1929). Die Bedeutung der Konkurrenz im Gebiete des Geistigen (The meaning of competition in the area of the intellectual). In Deutsche Gesellschaft für Soziologie (Hrsg.), *Verhandlungen des 6. Deutschen Soziologentages vom 17. Bis 19. September 1928 in Zürich: Vorträge und Diskussionen in der Hauptversammlung und in den Sitzungen der Untergruppen* (S. 79–120). Mohr Siebeck.
- McBride, B. B., Brewer, C. A., Berkowitz, A. R., & Borrie, W. T. (2013). Environmental literacy, ecological literacy, ecoliteracy: What do we mean and how did we get here? *Ecosphere*, 4(5), S. 1–20.
- Merriam, S. (1983). Mentors and Protégés: A Critical Review of the Literature. *Adult Education*, 33(3), S. 161–173.
- Nehfort, R. (2022). Ich bin neu! In C. Wiesner, E. Windl, & J. Dammerer (Hrsg.), *Mentoring als Auftrag zum Dialog: Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir interagieren. Band 2* (S. 259–262). Studienverlag.
- Orr, D. W. (1989). Ecological Literacy. *Conservation Biology*, 3(4), S. 334–335.
- Orr, D. W. (1992). *Ecological literacy: Education and the transition to a postmodern world*. State University of New York Press.
- Prenzel, A. (1993). *Pädagogik der Vielfalt [Pedagogy of Diversity]*. VS.
- Priestley, M., Philippou, S., Alvunger, D., & Soini, T. (2021). Curriculum Making: A Conceptual Framework. In M. Priestley, D. Alvunger, S. Philippou, & T. Soini (Hrsg.), *Curriculum making in Europe. Policy and Practice Within and Across Diverse Contexts* (S. 1–27). Emerald.
- Risser, P. G. (1986). Address of the Past President: Syracuse, New York; August 1986: Ecological Literacy. *The Bulletin of the Ecological Society of America*, 67(4), S. 264–270.
- Rogers, C. R. (1956a). Becoming a Person: Some Hypotheses Regarding the Facilitation of Personal Growth. *Pastoral Psychology*, 7(1), S. 9–13.
- Rogers, C. R. (1956b). Becoming a person: What it means to become a person. *Pastoral Psychology*, 7(3), S. 16–26.

- Rombach, H. (1966). *Substanz, System, Struktur: Die Hauptepochen der europäischen Geistesgeschichte. Band 1* [Substance, System, Structure: The Main Epochs of European Intellectual History. Volume 1] (3. Auflage 2010, unveränderter Nachdruck von 1966). Alber.
- Rombach, H. (1971). *Strukturontologie: Eine Phänomenologie der Freiheit* [Structural Ontology: A Phenomenology of Freedom] (Auflage 1988 mit Nachwort). Alber.
- Roscher, W. H. (Hrsg.). (1894). *Ausführliches Lexikon der griechischen und römischen Mythologie. Zweiter Band. Zweite Abtheilung Laas – Myton* [Comprehensive Lexicon of Greek and Roman Mythology. Volume Two. Second Division: Laas – Myton]. Teubner.
- Schatzki, T. (1996). *Social Practices. A Wittgensteinian Approach to Human Activity and the Social*. Cambridge University Press.
- Schatzki, T. (2001). Introduction: Practice theory. In K. Knorr Cetina, T. R. Schatzki, E. von Savigny, & K. Knorr-Cetina (Hrsg.), *The Practice Turn in Contemporary Theory* (Edition 2005, S. 10–23). Taylor and Francis.
- Schatzki, T. R. (2002a). *The Site of the Social. A Philosophical Account of the Constitution of Social Life and Change*. Pennsylvania State University Press.
- Schatzki, T. R. (2002b). *The Site of the Social. A Philosophical Account of the Constitution of Social Life and Change*. Pennsylvania State University Press.
- Schatzki, T. R. (2006). On Organizations as they Happen. *Organization Studies*, 27(12), S. 1863–1873.
- Schatzki, T. R. (2010). *The Timespace of Human Activity: On Performance, Society, and History as Indeterminate Teleological Events*. Lexington Books.
- Schatzki, T. R. (2016). Praxistheorie als flache Ontologie. In H. Schäfer (Hrsg.), *Praxistheorie. Ein soziologisches Forschungsprogramm* (S. 29–44). Transcript.
- Schatzki, T. R. (2019). On Plural Actions [Practice Theory as Flat Ontology]. In A. Buch & T. R. Schatzki (Hrsg.), *Questions of Practice in Philosophy and Social Theory* (S. 49–64). Routledge.
- Schmitt-Maass, C. (2018). *Fenelons telemaque in der deutschsprachigen Aufklärung (1700-1832)*. De Gruyter.
- Schefflen, A. E. (1967). On the Structuring of Human Communication. *American Behavioral Scientist*, 10(8), S. 8–12.
- Shove, E. (2010). Beyond the ABC: Climate Change Policy and Theories of Social Change. *Environment and Planning A: Economy and Space*, 42(6), S. 1273–1285.
- Snoeck, M., Eisenschmidt, E., Forsthuver, B., Holdsworth, P., Michaelidou, A., Dahl, J., & Pachler, N. (2010). *European Commission: Developing Coherent and System-wide Induction Programmes for Beginning Teachers: A Handbook for Policymakers*. European Commission.
- Söder, J. (2009). Zu Platons Werken [Regarding Plato's Works]. In C. Horn, J. Müller, & J. R. Söder (Hrsg.), *Platon-Handbuch: Leben, Werk, Wirkung*. Metzler.
- Stenger, G. (1996). Das Phänomen der Evidenz und die Evidenz des Phänomens [The Phenomenon of Evidence and the Evidence of the Phenomenon]. *Phänomenologische Forschungen*, 1(1), S. 84–106.
- Tönnies, F. (1887). *Gemeinschaft und Gesellschaft. Abhandlung des Communismus und des Socialismus als empirischer Culturformen* ["Community and Society: Treatise on Communism and Socialism as Empirical Cultural Forms]. Fues's Verlag.
- Tönnies, F., Weber, A., Sombart, W., Wilbrandt, R., Stoltenberg, H. L., Jerusalem, F. W., Singer, K., Lederer, E., Löwe, A., Meusel, Elias, N., Eppstein, P., Wiese, L., & Mannheim, K. (1929). Diskussion über „Die Konkurrenz“ (Discussion about „Competition“). In Deutsche Gesellschaft für Soziologie (Hrsg.), *Verhandlungen des 6. Deutschen Soziologentages vom 17. Bis 19. September 1928 in Zürich: Vorträge und Diskussionen in der Hauptversammlung und in den Sitzungen der Untergruppen* (S. 84–124). Mohr Siebeck.
- Vetter, F. W. A. (1838). Hygiene [Hygiene]. In D. W. H. Busch, C. F. v. Gräfe, E. Horn, H. F. Link, J. Müller, & E. Osann (Hrsg.), *Encyclopädisches Wörterbuch der medicinischen Wissenschaften* (S. 392–419). Veit.

- Vetter, H. (2007). Was ist Phänomenologie? [What is Phenomenology?] *Existenzanalyse, 2*(Das wesentliche Sehen. Phänomenologie in Psychotherapie und Beratung), S. 4–10.
- Vollmer, W. (1836). *Wörterbuch der Mythologie aller Nationen* [Dictionary of Mythology of All Nations]. Hoffmann'sche Verlags-Buchhandlung.
- von Bertalanffy, L. (1940). Der Organismus als physikalisches System betrachtet [The Organism Viewed as a Physical System]. *Naturwissenschaften, 28*(33), S. 521–531.
- von Hayek, Friedrich (1983). Die überschätzte Vernunft [The Overestimated Reason]. In R. J. Riedl & F. Kreuzer (Hrsg.), *Evolution und Menschenbild*. Hofmann und Campe.
- Voss, J. H. (1843). *Homers Odyssee* [Homer's Odyssey]. Übersetzt von Joh. Heinr. Voss (A. Voss, Hrsg.). Immanuel Müller.
- Watzlawick, P., Bavelas, J. B., & Jackson, D. D. (1967). *Pragmatics of Human Communication. A Study of Interactional Patterns, Pathologies, and Pradoxes. To Gregory Bateson, Friend and Mentor*. Norton.
- Wiesner, C. (2010). Interpersonelle Kommunikation 4.0. Analytische Betrachtung der zwischenmenschlichen Kommunikation in der Aus-, Fort- und Weiterbildung. *Medien Journal: Zeitschrift für Kommunikationskultur, 1*, S. 4–19.
- Wiesner, C. (2020). Strukturdynamische Modellierung von Mentoring: Bewegungen, Richtungen und Ausrichtungen [Structural-Dynamic Modeling of Mentoring: Movements, Directions, and Alignments]. In J. Dammerer, E. Windl, & C. Wiesner (Hrsg.), *Mentoring im pädagogischen Kontext: Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir bilden. Band 1* (S. 85–111). Studienverlag.
- Wiesner, C. (2022a). Das lebendige Geschehen: Die Verortung des Organon-Modells von Karl Bühler für ein gelingendes Mentoring Erste Skizze zu einer Pädagogik der Kommunikation, Interaktion und Interpunktion [The Living Process: Situating Karl Bühler's Organon Model for Successful Mentoring. Initial Sketch for a Pedagogy of Communication, Interaction, and Interpunction]. In C. Wiesner, E. Windl, & J. Dammerer (Hrsg.), *Mentoring als Auftrag zum Dialog. Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir interagieren. Band 2* (Bd. 2, S. 381–408). Studienverlag.
- Wiesner, C. (2022b). Führen und Geführtwerden—Interaktions- und Kommunikationsmodelle im Mentoring. Eine zweite Skizze für eine Pädagogik der Kommunikation, Interaktion und Interpunktion [Leading and Being Led—Interaction and Communication Models in Mentoring. A Second Sketch for a Pedagogy of Communication, Interaction, and Interpunction]. In C. Wiesner, E. Windl, & J. Dammerer (Hrsg.), *Mentoring als Auftrag zum Dialog. Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir interagieren. Band 2* (Bd. 2, S. 409–462). Studienverlag.
- Wiesner, C. (2022c). Wahrnehmen, wie wir führen: Begleitung von den Geltungsansprüchen her verstehen. Die dritte Skizze einer Pädagogik der Kommunikation, Interaktion und Interpunktion [Perceiving How We Lead: Understanding Guidance from the Claims of Validity. The Third Sketch of a Pedagogy of Communication, Interaction, and Interpunction]. In C. Wiesner, E. Windl, & J. Dammerer (Hrsg.), *Mentoring als Auftrag zum Dialog. Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir interagieren. Band 2* (Bd. 2, S. 463–514). Studienverlag.
- Wiesner, C. (2024). Vom Durchwandern der Deduktion, Induktion und Abduktion: Wege, um wissenschaftliche Schlussfolgerungen und deren Facetten zu lernen [Traversing Deduction, Induction, and Abduction: Paths to Learning Scientific Conclusions and Their Facets]. *R&E-SOURCE, 11*(1).
- Wiesner, C., & Brandhofer, G. (2024). *Phänomene des Lehrens und Lernens. Zur Krise des Lernens: Grundlagen zu einer wirkmächtigen Didaktik* [Phenomena of Teaching and Learning. On the Crisis of Learning: Foundations for an Efficacious/Potent Didactics]. UTB.
- Wiesner, C., Breit, S., & Zechner, K. (2023). Caring Culture: With each other, for each other. A conceptual foundation through attachment theory and cognitive theory of moral judgment

- development. *International Journal of Latest Trends in Engineering and Technology, Special Issue-ICE2MAS*, S. 15–35.
- Wiesner, C., & Dammerer, J. (2020). Begleitung und Unterstützung der formativen Integration von Bildungsstandards. Haltung als Gelingensbedingung [Accompaniment and support for the formative integration of educational standards. Attitude as a condition for potency]. In U. Greiner, F. Hofmann, C. Schreiner, & C. Wiesner (Hrsg.), *Bildungsstandards. Kompetenzorientierung, Aufgabenkultur und Qualitätsentwicklung im Schulsystem* (Bd. 7, S. 250–296). Waxmann.
- Wiesner, C., & Gebauer, M. (2023). Das In-der-Welt-sein als Grundverfassung des Mentorings. Das An-Sich-Erfahren und das Zu-Sich-Sein: Bindungstheoretische Fundierungen für das Mentoring [Being-in-the-world as the Fundamental Constitution of Mentoring. Experiencing Oneself and Being-with-Oneself: Attachment-Theoretical Foundations for Mentoring]. In E. Windl, J. Dammerer, & C. Wiesner (Hrsg.), *Mentoring als Möglichkeitsraum. Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen wie wir gestalten*. (S. 101–127). Studienverlag.
- Wiesner, C., & Prieler, T. (2020). Das transformative Lernen in der LehrerInnenbildung. Pädagogische Professionalität und Entwicklung des Lehrerhabitus [Transformative Learning in Teacher Education: Pedagogical Professionalism and the Development of the Teacher Habitus]. *R&E Source: Open Online Journal for Research and Education*, 4. Jahrestagung zur Forschung der Pädagogischen Hochschulen im Verbund Nord-Ost: Lehr-Lernprozesse gestalten, analysieren und evaluieren, S. 1–18.
- Wiesner, C., & Prieler, T. (2023). Literalität, Literacy und literacies auf der Spur. Die Ausformung von Vermögen durch literacies im Mentoring [Pursuing Literacy, Literacy, and Literacies: The Development of Capacities through Literacies in Mentoring]. In E. Windl, J. Dammerer, & C. Wiesner (Hrsg.), *Mentoring als Möglichkeitsraum. Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen wie wir gestalten*. (S. 53–73). Studienverlag.
- Wiesner, C., & Prieler, T. (19-52). Kompetenzen sehen lassen. Die Entwicklung von Fähigkeiten und Fertigkeiten aus der Sicht der Kompetenz im Mentoring [Displaying Competencies: The Development of Skills and Abilities from the Perspective of Competence in Mentoring]. In E. Windl, J. Dammerer, & C. Wiesner (Hrsg.), *Mentoring als Möglichkeitsraum. Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir gestalten*. Studienverlag.
- Wiesner, C., & Schreiner, C. (2019). Implementation, Transfer, Progression und Transformation: Vom Wandel von Routinen zur Entwicklung von Identität. Von Interventionen zu Innovationen, die bewegen. Bausteine für ein Modell zur Schulentwicklung durch Evidenz(en) [Implementation, Transfer, Progression, and Transformation: From the Change of Routines to the Development of Identity. From Interventions to Innovations that Move. Building Blocks for a Model of School Development through Evidence(s)]. In C. Schreiner, C. Wiesner, S. Breit, P. Döbelstein, M. Heinrich, & U. Steffens (Hrsg.), *Praxistransfer Schul- und Unterrichtsentwicklung* (S. 79–140). Waxmann.
- Wiesner, C., & Schreiner, C. (2023). Neue und alte Aspekte von Lerngemeinschaften. Eine zeichentheoretisch-analytische Reflexion mit Bezug zu Karl Bühler und Ernst Cassirer [New and Old Aspects of Learning Communities: A Semiotic-Analytical Reflection with Reference to Karl Bühler and Ernst Cassirer]. In A. Schuster, F. Rauch, C. Lechner, C. Mewald, S. Oyrer, R. Scaratti-Zanin, C. Schweiger, L. Stieger, & S. Zehetmeier (Hrsg.), *Aktionsforschung: Vergangenheit – Gegenwart – »neue« Zukunft (Beiträge zu Aktionsforschung, Lesson Study und Learning Study)* (S. 87–112). Praesensverlag.
- Wiesner, C., Schreiner, C., Breit, S., & Lücken, M. (2020). Reflexion und Proflexion als Gelingensbedingung für die Arbeit mit Rückmeldungen [Reflection and Proflexion as Conditions for the Success of Working with Feedback]. In U. Greiner, F. Hofmann, C.

- Schreiner, & C. Wiesner (Hrsg.), *Bildungsstandards. Kompetenzorientierung, Aufgabenkultur und Qualitätsentwicklung im Schulsystem* (S. 161–188). Waxmann.
- Wiesner, C., & Zechner, K. A. (2023). Diversity works through Care: Eine Semiologie der pädagogischen Diagnostik: Diversitätssensible pädagogische Diagnostik aus den Ideen, Gestalten und Formen von Ernst Cassirer heraus betrachtet [Diversity Works through Care: A Semiology of Pedagogical Diagnosis: Diversity-Sensitive Pedagogical Diagnosis Examined through the Ideas, Figures, and Forms of Ernst Cassirer]. *R&E Source: Open Online Journal for Research and Education: More of Research – Konferenzband zum Tag der Forschung*, 10, S. 175–236.
- Wiesner, C., Zechner, K., Dörfler, S., Karrer, H., & Schrank, B. (2024). Perspectives for unfolding well-being in the context of teacher education: Emerging well-being Insights from Theoretical Austrian Traditions. In B. Martinsone, M. T. Jensen, C. Wiesner, & K. Zechner (Hrsg.), *Teachers' professional wellbeing. A Digital Game Based Social-Emotional Learning Intervention* (S. 159–180). Klinkhardt.
- Wittgenstein, L. (1974). *Bemerkungen über die Grundlagen der Mathematik. Schriften Band 6* [Remarks on the Foundations of Mathematics. Writings Volume 6]. Suhrkamp.
- Zechner, K. A., & Wiesner, C. (2023, August 31). *Care = attachment and participation? Interdisciplinary approaches to inclusion* [EECERA 2023].
- Zeilinger, H., & Dammerer, J. (2022). Lehrerkompetenz im Berufseinstieg wahrnehmen und begutachten [Perceiving and Assessing Teacher Competence in Career Entry]. In C. Wiesner, E. Windl, & J. Dammerer (Hrsg.), *Mentoring als Auftrag zum Dialog: Professionalisierung und Qualifizierung von Lehrpersonen. Wahrnehmen, wie wir interagieren* (S. 235–259). Studienverlag.

Endnotes

¹ RegR. HS-Prof. Mag. Dr. Elisabeth Windl passed away in April 2024 at the age of 43 after a short and serious illness. Johannes Dammerer and Christian Wiesner deeply thank Elisabeth Windl for the years of collaboration and her outstanding dedication to mentoring. Only few others in the last decades recognized the importance and relevance of mentoring and school practice as she did. It was a pleasure for us to have edited the three books with her. We dedicate this article to her.

² *The first book*: Mentoring in the Educational Context. Professionalization and Qualification of Teaching Personnel <https://doi.org/10.53349/oa.2022.a2.120>; *the second book*: Mentoring as a Call to Dialogue. Professionalization and Qualification of Teaching Personnel Perceiving How We Interact <https://doi.org/10.53349/oa.2022.a2.180>; *the third book*: Mentoring as a Space of Possibilities. Professionalization and Qualification of Teaching Personnel <https://doi.org/10.53349/oa.2022.a2.160>

³ Im Original bei (Haeckel, 1866), p. 235): „Die Oecologie oder die Lehre vom Naturhaushalt [...]“. Die „Oecologie [... ist] die Wissenschaft von den Wechselbeziehungen der Organismen unter einander, und ebenso die Chorologie, die Wissenschaft von der geographischen und topographischen Verbreitung der Organismen (p. 236)“ – in Englisch *Ecology, or the study of the natural environment (...)* *Ecology (...)* is the science of the interrelationships of organisms with each other, and likewise chorology, the science of the geographical and topographical distribution of organisms (p. 236).

⁴ Buchner (1847, p. 781): „Lehre von der gesundheitsgemäßen Anlage der Wohnungen (Oecologie)“ – in English *The science of health-appropriate design of residences (Ecology)*.