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Retrieving and recontextualising VET theory

Bill Esmond, Thilo J. Ketschau, Johannes K. Schmees, Christian Steib & Volker Wedekind (Eds.)

Andreas SLOPINSKI & Christian STEIB

(University of Oldenburg, Germany)

The Berlin Model 2.0 – A discussion proposal for the planning and analysis of teaching-learning processes in a culture of digitality.

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The Berlin Model 2.0 – A discussion proposal for the planning and analysis of teaching-learning processes in a culture of digitality

Abstract

More than 60 years ago, Paul Heimann (1962a) presented the *Berlin Model* and founded *learning theory didactics*, which is still one of the best-known and most popular didactic theories of (vocational) education and training in Germany. Heimann (1965, 7; 1962a, 153f., 160) played a particularly important role in giving the *media* a position within the model that corresponds to their social importance, especially since the mass media of film, radio and television became widespread.

What Heimann could not foresee at the time, however, was the explosion in potential inherent in digitalisation and digital media. Today, all areas of education are required to take the opportunities and potential of digital media into account in order to do justice to changing working and living conditions. However, this must not only be reflected in individual aspects, but must also be reflected in forms of teaching and learning (cf. Steib/Stoffers 2022, 297). This requires a corresponding didactic theory.

On the basis of the Berlin Model and in the context of the changed circumstances of modern society, this article presents a conception of a didactic model, which essentially spans a continuum from a traditional to a contemporary design of teaching-learning situations under the conditions of a culture of digitality.

Keywords: *Berlin model, competence orientation, construction orientation, digitality, learning theory didactics*

Das Berliner Modell 2.0 – Ein Diskussionsvorschlag für die Planung und Analyse von Lehr-Lern-Prozessen in einer Kultur der Digitalität

Vor mittlerweile über 60 Jahren hat Paul Heimann (1962a) das *Berliner Modell* vorgestellt und die *lerntheoretische Didaktik* begründet, bei der es sich auch heute noch um eine der bekanntesten und populärsten didaktischen Theorien der (Berufs-)Bildung in Deutschland handelt. Heimann (1965, 7; 1962a, 153f., 160) war dabei besonders wichtig, den *Medien* innerhalb des Modells eine Stellung einzuräumen, die ihrer gesellschaftlichen Bedeutung, insbesondere seit der Verbreitung der Massenmedien Film, Funk und Fernsehen, entspricht.

Was Heimann seinerzeit jedoch nicht vorhersehen konnte, war, welche eruptiven Potenziale der Digitalisierung und digitalen Medien innewohnen. Heute sind alle Bereiche des Bildungswesens angehalten, den Chancen und Potenzialen digitaler Medien Rechnung zu tragen, um den sich verändernden Arbeits- und Lebensbedingungen gerecht zu werden. Jedoch darf sich dies nicht nur in einzelnen Aspekten, sondern muss sich auch in den Formen des Lehrens und Lernens niederschlagen (vgl. Steib/Stoffers 2022, 297). Dies setzt jedoch eine entsprechende didaktische Theorie voraus.

Im vorliegenden Beitrag wird auf der Grundlage des Berliner Modells und vor dem Hintergrund der veränderten Gegebenheiten der modernen Gesellschaft eine Konzeption eines didaktischen Modells vorgestellt, welches im Wesentlichen ein Kontinuum aufspannt, das von einer altbewährten hin zu einer zeitgemäßen Gestaltung von Lehr-Lernsituationen unter den Bedingungen einer Kultur der Digitalität führt.

Schlüsselwörter: Berliner Modell, Digitalität, Kompetenzorientierung, Konstruktionsorientierung, lerntheoretische Didaktik

1 Introduction¹

Over 60 years have passed since Paul Heimann (1962a) published his essay ‘Didactics as theory and teaching’ (‘Didaktik als Theorie und Lehre’) in which he presented the *Berlin Model (Berliner Modell)*, which was developed by his working group at the Berlin Teacher Training Centre in order to “provide a model of the optimal theory-practice relationship for the newly created ‘Didaktikum’ – as part of the Teacher Training Act passed in Berlin in 1958” (“für das – im Rahmen des 1958 in Berlin beschlossenen Lehrerbildungsgesetzes – neugeschaffene ‚Didaktikum‘ ein Modell des optimalen Theorie-Praxis-Verhältnisses”) (Huisken 1972, 70, translated for the current article, italics in all quotations are from the originals, authors’ note), and with which he founded *didactics of learning theory (lerntheoretische Didaktik)*. However, the Berlin Model is still used today by teachers and student teachers who turn to the helpful structures offered by the model in light of the complexity of the phenomenon of teaching, in order to plan and/or to analyse teaching (see Reich 1977, 165; Becker/Jungblut 1972, 225). The didactics of learning theory is therefore still considered one of the best-known and most popular didactic theories within (vocational) education in Germany.

It can be argued that the Berlin Model, in the light of its conception in the 1960s, no longer adequately reflects the conditions and the challenges of today. With his didactics of learning theory, Heimann (1965, 7; 1962a, 415f., 421), intended to provide the *media*, along with the *intentions*, *content* and *methods*, a central position within the “*fields of decision-making* in teaching” (“*unterrichtliche[n] Entscheidungsfelder*”) (Heimann 1962a, 416). Of course, it was not possible for him to foresee the fundamental changes in life and work which occurred with *digitalisation* and digital media (see Schmid et al. 2017, 5). These require all sectors of the education system to call themselves into question in order to meet the demands of constantly changing working and living conditions (see, for example, Tenberg 2020; Eickelmann et al. 2019; Heimann 1962a, 425). This must, however, not only be reflected in isolated aspects but also in the forms of teaching and learning (see Steib/Stoffers 2022, 297). This requires a corresponding didactic theory.

The use of digital media in teaching is currently still determined by the discussion as to whether these provide ‘added value’ compared with analogue media. As such, digital media are reduced to a very narrow and out-dated media concept which, as Krommer (2020) argues, is based on

¹ Stephanie Wilde, University of Paderborn, translated the original German paper to English. Additional work was done by Andreas Slopinski and Christian Steib, University of Oldenburg.

the idea that digital media are useful but neutral and interchangeable technical tools whose use (analogue, digital) can only be decided upon at the end of the lesson planning phase. This viewpoint, however, uses a questionable understanding of educational processes that focuses on functionality and optimisation. According to this viewpoint, using digital media would only be ‘worthwhile’ if they achieve learning objectives (especially those of a cognitive nature) more efficiently and effectively than would be the case using analogue media (see Schiefner-Rohs 2022, 49). However, this premise does not take into account the fact that digital media are by no means value neutral ‘containers’ of information which enable *new* and *different* (not better) forms of teaching and learning processes than do analogue media (see Krommer 2021, 58). In addition, the debate regarding the added value of digital media neglects the fact they represent aspects of changed cultural conditions in the teaching and learning environment which have to be reflected in teaching (see, for example, Pallesche 2021).

On the basis of the Berlin Model and in the context of the changed conditions of modern society, this paper presents a conception of a didactic model which sets up a continuum that can range from a tried and tested approach to teaching and learning situations to a contemporary approach within the culture of digitality. The second chapter presents the *Berlin Model*. Chapter 3 then introduces the *Berlin Model 2.0* and proposes it as an approach for a didactic theory of teaching which is contemporary and up-to-date. The chapter discusses this model. In order to do so, the various different dimensions are discussed, alongside explanations of assumptions related to theories of teaching and learning. These each have their own continuum in which teachers have to make decisions regarding lesson planning and design. In the final section the paper reflects on the *Berlin Model 2.0*.

2 The Berlin Model

2.1 Guiding principles of the Berlin Model

Through establishing a didactics of learning theory which was based on a theoretical approach characterised by social science and functionalism, and was constructed as an *open* system, Heimann and his colleagues intended to create a didactic theory which was distinct from the two main didactic theories of that time (see Heimann 1965, 8ff.; 1962a, 407f., 414f.), since these seemed to them to be only partially suitable for the planning and/or analysis of teaching (see Blankertz 1980, 15ff., 89f.; 1969, 266f.): on the one hand, the *didactics of educational theory* (*bildungstheoretische Didaktik*) according to Erich Weniger (1960; 1952; 1930), Josef Derbolav (1970; 1960; 1957) or Wolfgang Klafki (1963; 1959), which is based on a theoretical approach using the humanities and hermeneutics and “understands didactics in a narrower sense as the theory of educational content and the curriculum” (“die Didaktik im engeren Sinne als Theorie der Bildungsinhalte und des Lehrplans versteht“) (Blankertz 1980, 28). However, this was not perceived to be tangible enough for the day-to-day planning and analysis of teaching (see Heimann 1962a, 410). On the other hand, there is *information-theoretical didactics* (*informationstheoretische Didaktik*), according to the work of Helmar Frank (1969/1962) or Felix von Cube (1965), which is based on a system-theoretical-technological approach, but which would favour the wished-for effectiveness of teaching and thus be disconnected from any values

and objectives related to human co-existence and individual fulfilment, such as maturity and emancipation (see Blankertz 1980, 52).

In the *Berlin Model* didactics is understood as the science of teaching (see Blankertz 1980, 91, 101). It assumes from the outset that there is an overarching question for the teaching and the teaching and learning processes that occur therein, since teaching is determined by many different factors which must be considered fully and in their entirety in the observation and examination of teaching (see Blankertz 1980, 91, 101). In order to be able to take these factors into account appropriately in the planning and/or analysis of teaching (see Becker/Jungblut 1972, 209, 225), the Berlin Model draws on sociological, psychological and social-psychological approaches (see Blankertz 1980, 91).

According to Heimann (1962a, 408, 411), the Berlin Model represents “‘*general’ didactics* [with reference to teaching and learning processes]” („eine [auf Lehr-Lern-Prozesse bezogene] ‚*allgemeine’ Didaktik*“) (Heimann 1962a, 408), and provides – following Winnefeld (1963, 34ff.) – an “indispensable minimum of foundational didactic categories and ways of thinking” („unabdingbares Mindest-Maß an didaktischen Grundkategorien und Denkmethode“) (Heimann 1962a, 408) for the aforementioned purposes. The intention is that the respective teachers will be encouraged and enabled to prepare and reflect upon lessons on the basis of theoretical and academic assumptions instead of intuitive and naïve skills (see Nickolaus 2006, 47, 51; Reich/Thomas 1976, 15, 29; Becker/Jungblut 1972, 225f.; Heimann 1962a, 408; 1948, 10). Heimann (1962a, 408) connects this with the hope of “designing our teaching in a more rational and successful manner and liberating us from the ugly compulsion of habit (...), any form of didactic dogmatism and, not least, from the coincidences that constantly threaten our pedagogical actions” („unser unterrichtliches Handeln rationaler und erfolgreicher zu gestalten und uns frei zu machen von dem häßlichen Zwang der Gewohnheit (...), jeglicher Art von didaktischem Dogmatismus und nicht zuletzt von den Zufällen, die unser pädagogisches Handeln in jedem Augenblick bedrohen“) (Heimann 1962a, 408).

According to both Heimann (1962a, 412f.) and Winnefeld (1963, 42), each process of teaching and learning is unique; each teaching and learning process comes into being and disappears within the respective situation (see Winnefeld 1963, 42; Heimann 1962a, 412f.); which is why there can be no universally applicable teaching and learning process or a binding set of cause and effect factors and decision-making principles (see Heimann 1956, 72; 1948, 19). However, these processes contain structural systems which can be understood in terms of structural characteristics (see Reich/Thomas 1976, 29).

2.2 Structural characteristics of the Berlin Model

The Berlin Model (see Figure 1) provides for two levels of reflection (see Heimann 1962a, 415). The first level, the “*structural analysis*” stage („*Struktur-Analyse*“) (Heimann 1962a, 415) deals with didactic decisions and their justifications. The second level, the “*factor analysis*” stage („*Faktoren-Analyse*“) (Heimann 1962a, 415), examines the extent to which the fields of decision-making under consideration, which “have taken shape under certain normative and factual conditions” („unter bestimmten normativen und faktischen Bedingungen Gestalt

geworden sind“) (Schulz 1965, 38) are able to “organise [teaching] in an optimal manner” („optimal [Unterricht] organisieren“) (Schulz 1965, 38), according to the norms, facts and forms (see Schulz 1965, 37ff.). The shaping of the *structure* is conditioned by the distinctive features of the *factors* (see Otto 1969, 29, 31f.).

1. Structural analysis level

At the level of the “*constant structures*” („*konstanten Strukturen*“) (Heimann 1962a, 415), Heimann (1962a, 415f.) and Schulz (1965, 23) place “at least *six* [mutually interdependent (see Otto 1969, 17, 37)] *Moments*” („[m]indestens *sechs* [in wechselseitigen Abhängigkeiten zueinander stehende (see Otto 1969, 17, 37)] *Momente*“) (Schulz 1965, 23), which constitute, “in their interplay, teaching as an intentional pedagogical event” („in ihrem Zusammenwirken Unterricht als absichtsvoll pädagogisches Geschehen“) (Schulz 1965, 23).

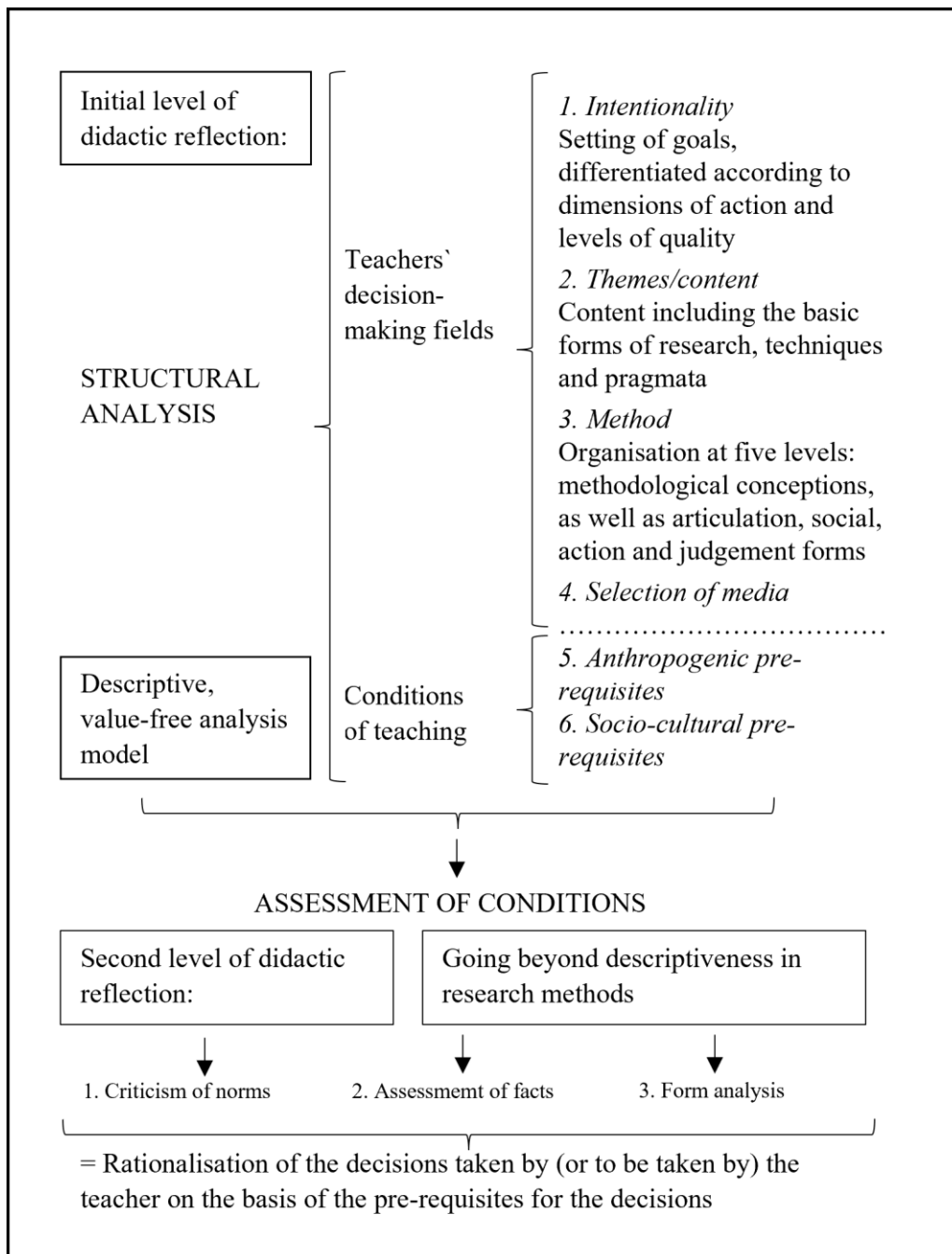


Figure 1: Structural analysis of teaching – Variables of the model, drawing on Blankertz 1980, 102

There are four decision-making fields in this context: intentions/aims, content/themes, methods/processes and media/means, as well as two conditional fields: anthropological-psychological and situative-social-cultural in nature:

- *The intentions/aims decision-making field*: Intentions/aims are understood in this context “in the sense of the defining of purpose and the meaning of acts within teaching” („im Sinne von Zwecksetzung und Sinngebung unterrichtlicher Akte“) (Heimann 1962a, 416). These can be located in various different dimensions as well as at different levels (see Otto 1969, 19f.; Schulz 1965, 25ff.). School teaching always refers to

intended teaching and learning processes because of the characteristics of “institutional methodical planning” („der institutionellen Planmäßigkeit“) (Otto 1969, 19). Determining the intentions/aims of the lesson is essential for determining the content/ themes (see Blankertz 1980, 101f.).

- *The content/themes decision-making field*: In this decision-making field the content/themes that will be dealt with in the lesson must be determined. These are determined depending on the intentions/aims (see Becker/Jungblut 1972, 234). Nonetheless, the content/themes represent an “independent moment of the lesson, the respective structure of which must be appropriately offered or at least considered in the lesson, in order that the lesson may not be termed irrelevant or even unobjective” („ein selbstständiges Moment des Unterrichts, dessen eigene Struktur im Unterricht angemessen angeboten oder zumindest beachtet werden muß, wenn der Unterricht nicht sachfremd oder gar unsachlich genannt werden soll“) (Schulz 1965, 29).
- *The methods/processes decision-making field*: The teacher’s behaviour and the organisation of teaching are determined in this decision-making field (see Becker/Jungblut 1972, 235). According to Schulz (1965, 30ff.) there are various different methods/processes of differing scope which can be differentiated according to their forms of process, articulation, social interaction, action and judgement.
- *The media/means decision-making field*: In this decision-making field assessments are made regarding the selection and the use of media/means in teaching (see Becker/Jungblut 1972, 235). These represent a particular structural element of lessons in the understanding of the Berlin School, which is distinct from all the other structural elements (see Schulz 1965, 34).
- *Anthropological-psychological conditions*: Heimann (1962a, 422) indicates that the teachers as well as the learners bring their personality structures into the teaching and learning processes. Therefore, this field of conditions takes into consideration the fact that teaching is affected by the participating individuals and their personalities, prerequisites and experiences (see Otto 1969, 26; Schulz 1965, 36).
- *Situative-social-cultural conditions*: This field of conditions takes into consideration the fact that the teaching and learning processes are embedded in a situational structure which, according to Heimann (1962a, 422), consists of at least the following four areas, namely the social situation, school class, school type and the “*time situation*, within which (...) the whole complexion of the societal and cultural factors which integrate together to form a particular ‘time signature’, are to be understood” („*Zeit*‘-*Situation*, unter der (...) die ganze Komplexion der gesellschaftlichen und kulturellen Faktoren, die sich zu einer bestimmten ‚Zeitsignatur‘ integrieren, verstanden werden sollen“) (Heimann 1962a, 422). The *time* dimension mentioned by Heimann, which also comprises any respective technological and technical constitution, also determines the necessity of continuously updating the teaching and learning concepts (with regard to

structure) (see Reich/Thomas 1976, 17; Otto 1969, 11; Heimann 1962a, 422, 425; 1955, 551f.).

Thus Heimann (1962a, 418) emphasises the significance of the choice of media/means and their interdependencies for the decisions regarding intentions/aims, content/themes and methods/process as decision-making fields for designing teaching and learning processes (in lessons) (see Blankertz 1980, 93; Reich/Thomas 1976, 32; Otto 1969, 24).

However, Hartfiel (1969, 193) critically notes that the two fields of conditions in Heimann's explanations remain "rather unkindly treated residual or collective categories" („recht lieblos behandelte Residual- bzw. Sammelkategorien“) (Hartfiel 1969, 193), despite the fact, as Winnefeld (1963, 30) rightly argues, that pedagogical areas of activity are "social and psychic fields of tension of a highly complicated nature" („sozialpsychische Spannungsfelder hochkomplizierter Art“) (Winnefeld 1963, 30).

2. *The factor analysis level*

The task of the deliberations at the second level is to reflect upon and question the ideas, claims and contributions of the social sciences and subject disciplines (see Reich/Thomas 1976, 31f.). For, as Blankertz (1980, 106) points out, teaching comes across "a given educational reality which, in certain historical circumstances, has already created a form which takes into consideration norms and facts" („auf eine vorgegebene Erziehungswirklichkeit, die unter bestimmten historischen Bedingungen bereits eine normen- und faktenberücksichtigende Form hervor gebracht hat“) (Blankertz 1980, 106).

In order to fulfil this task, the "factors to be discussed" („zu erörternden Faktoren“) (Heimann 1962a, 423) are analysed at the second level on the basis of a distinction of these factors in the three categories of "*objective-setting*" („zielsetzende“) factors (*norms*), "*conditioning*" („konditionierende“) factors (*facts*) and "*organising*" („organisierende“) factors (see Heimann 1962a, 423). In the "*criticism of norms*" („Normenkritik“) (Heimann 1962a, 423), the direct or indirect influences on teaching which are based on ideology but also on fact are examined (see Heimann 1962a, 423). In this context ideology is understood to be value-neutral and comprises "philosophical speculation as well as religious faith and the forming of political and societal opinion" („die philosophische Spekulation ebenso wie den religiösen Glauben und die politische und gesellschaftliche Meinungsbildung“) (Heimann 1962a, 423). In the "*assessment of facts*" („Faktenbeurteilung“) (Heimann 1962a, 423), scientific facts, that is to say, "objective facts" („objektive Tatbestände“) (Heimann 1962a, 424) are assessed, "which are largely removed from the subjective forming of opinion" („die weitgehend der subjektiven Meinungsbildung entrückt sind“) (Heimann 1962a, 424). This influence was also evident in the inclusion of new content "in the canon of teaching disciplines" („in den Kanon der Unterrichtsdisciplinen“) (Heimann 1962a, 424). However, Heimann (1962a, 424) himself pointed out that it is in fact rather merely our views of these facts that are of importance. According to Blankertz (1980, 107), these interpret "what will be effective with our concepts and so we understand the processes using the categories we ourselves have created" („was wirksam wird, mit unseren Begriffen, und also begreifen wir die Vorgänge mit den von uns angelegten Kategorien")

(Blankertz 1980, 107). As such, the facts, but also the forms, cannot be distinguished from the norms and analysed independently to the extent that Heimann intends (see Blankertz 1980, 107). The examination of the factors which organise teaching is carried out within the “*understanding of form*” („*Formverständnis*“) (Heimann 1962a, 423; see 425). According to Heimann (1962a, 425), these can be sought primarily “within ourselves, in the productivity of our creative and constructive imagination” („sind diese vorrangig „in uns selbst, in der Produktivität unserer entwerfenden und konstruierenden Phantasie zu suchen“) (Heimann 1962a, 425). It should be noted that there is, unfortunately, only a brief and marginal discussion, precision and specification of the second level of analysis in Heimann’s writings, despite the fact that, as noted earlier, it is accorded a high level of significance (see Blankertz 1980, 106ff.; Becker/Jungblut 1972, 238).

Blankertz (1980, 112ff.) notes that the Berlin Model lacks a “well-founded connection of hypotheses on the teaching process and its legitimacy” („begründeter Zusammenhang von Hypothesen über den Unterrichtsprozeß und seine Gesetzmäßigkeiten“) (Blankertz 1980, 112), which means that strictly speaking it cannot be a didactic theory. As such the categories that the Berlin Model puts forward are “nothing less but also nothing more than *classifications for decisions*” („nicht weniger, aber eben auch nicht mehr als *Klassifizierungen für Entscheidungen*“) (Blankertz 1980, 112).

The Berlin Model, however, does not make any claim to aim to inform about empirical uniformities; instead of *descriptive* aims (deepening observations to create theory) it aims to serve *prescriptive* decisions (the planning of teaching) and *retrospective* reflections (the analysis of teaching) (see Hartfiel 1969, 191f., 195ff.; Otto 1969, 191f.). In this sense it is a “structural model” („Strukturmodell“) (Otto 1969, 17) of teaching and a “decision-making aid” („Entscheidungshilfe“) (Reich/Thomas 1976, 29) for teachers and can serve as a starting point for creating theory.

3 The Berlin Model 2.0

3.1 Guiding Principles of the Berlin Model 2.0

Didactic models take up a pivotal mediating position in the field of tension between the theory and practice of teaching and learning processes (see Bohl/Schnebel 2021, 2f.; Riedl 2010, 77). However, in order to be able to fulfil this important function, they must take into consideration current findings from empirical research into teaching and learning – a requirement that, according to Achtenhagen and Pätzold (2010, 137), the classic didactic models, including the Berlin model, neglect to fulfil.

The proposed version of the Berlin Model 2.0 that follows aims to respond to this criticism and consider the findings of empirical research as well as the considerations of “good” (Klusmeyer 2021, 95) or, more accurately, *contemporary* teaching. In this context, it should be emphasised once more that the proposal presented here points out decision-making areas for planning and analysing lessons, but does not, cannot and does not intend to provide firm guidelines or formulaic decision-making aids (see Riedl/Schelten 2013, 15; Riedl 2010, 79). Rather, it offers

teachers a “framework for thinking and orientation” („Denk- und Orientierungsrahmen“) (Berkmeyer/Mende 2018, 166).

The following text briefly explains the theoretical assumptions related to teaching and learning that are fundamental to the Berlin Model 2.0:

1. Learning is an *individual process*. It always takes place “within the cognitive, emotional and sensory structures that have been acquired throughout a person’s biography” („im Rahmen biografisch erworbener kognitiver, emotionaler und sensorischer Strukturen“) (Siebert 2008, 26). Learning is both an active and a constructive process simultaneously (see von Glasersfeld 2010, 20ff.). Knowledge cannot be ‘imparted’ to learners in a more or less linear manner. Rather, learning processes involve subjective interpretations of new information and experiences, which the learning individual attempts to make sense of in a meaningful way. This sense-making is expressed through learners creating order and organisation in the new information and new experiences (see Meixner/Müller 2004, 3; Krüssel 1993, 72). This leads to the question of whether it is possible to judge whether a learning process was successful. Categories such as ‘right’ or ‘wrong’ are of little use in the judgement. Rather, it is relevant to consider whether the knowledge acquired in the learning process is suitable, useful, in other words, viable (see, for example, von Glasersfeld 1987). Each individual decides in a specific situation whether knowledge is viable or not (see Arnold/Siebert 2006, 113). However, this viewpoint is then always only valid for this one situation. In the long-term, it is, however, only those ideas that are accepted inter-subjectively and are compatible with other that prove to be viable (see Siebert 2008, 33).
2. Learning is a *social process*. Interactions with other people are of great significance for learning processes. Von Glasersfeld (2010, 33) confirms this: “What we initially perceive to be ‘objective’ reality emerges usually from the fact that our own experience is confirmed by others. (...) Inter-subjective repetition of experiences delivers the most certain guarantee of ,objective‘ reality.” („Was wir zunächst als ,objektive‘ Wirklichkeit betrachten, entsteht in der Regel dadurch, daß unser eigenes Erleben von anderen bestätigt wird. (...) Intersubjektive Wiederholung von Erlebnissen liefert die sicherste Garantie der ,objektiven‘ Wirklichkeit.“) (Glasersfeld (2010, 33). The interactions between learners favour learning progress through various different cognitive processes. In addition, it is important to add Anderson’s (2007, 230ff.) concept of *cognitive elaboration*, as well as the concept of the *zone of proximal development* according to Vygotsky (1974). The concept of cognitive elaboration outlines that the more information is enhanced through additional information the better it can be integrated into existing cognitive structures. This elaboration can be encouraged through interactions with other learners, such as discussing and debating together, mutual questioning, jointly developing problem-solving strategies or also explaining issues to each other (see, for example, King 1999). The concept of the zone proximal development argues that each person at a specific point in time has an individual state of development which enables a certain level of achievement. In the zone of proximal development there are tasks which people cannot complete independently. At this point, supportive third

parties come into play who support the learning individual through guidance and assistance to deal with these tasks and to acquire or to internalise new knowledge. These third parties can be teachers or also other learners (see, for example, Fürstenau 2009, 68ff.).

On the basis of this brief description of the theoretical assumptions related to teaching and learning, the next section provides an overview of the Berlin Model 2.0. The respective structural levels will then be outlined in the following sections.

3.2 Structural model of the Berlin Model 2.0

The core element of the Berlin Model 2.0 that will be presented here is a three-dimensional model of decision-making (see Figure 2). The three dimensions of decision-making were developed based on the decision-making fields of the original Berlin Model and in the context of the challenges of the culture of digitality (see Stalder 2016). The decision-making dimension of competence orientation was created from the two decision-making fields of *intention* and *theme*. It takes into account the competence and outcome orientation of vocational education and training (VET). The decision-making dimension of *construction orientation* replaces the decision-making field of *methods*. As such, the intention is to place the emphasis of lesson planning and analysis to a greater extent on the learners' learning success and the learning activities and shift the focus to complex lesson conceptions rather than individual decisions related to methods. The decision-making dimension of *digitality* represents an adaptation and enhancing of the *media* decision-making field. On the one hand, it follows an understanding that assumes that media cannot be regarded merely as 'tools'. On the other hand, it recognises that in an era of a digital society, teaching must also acknowledge and put into practice a culture of digitality. In contrast to the four decision-making fields of the original Berlin Model, however, the three decision-making dimensions of the Berlin Model 2.0 are to be understood as having equal importance and value.

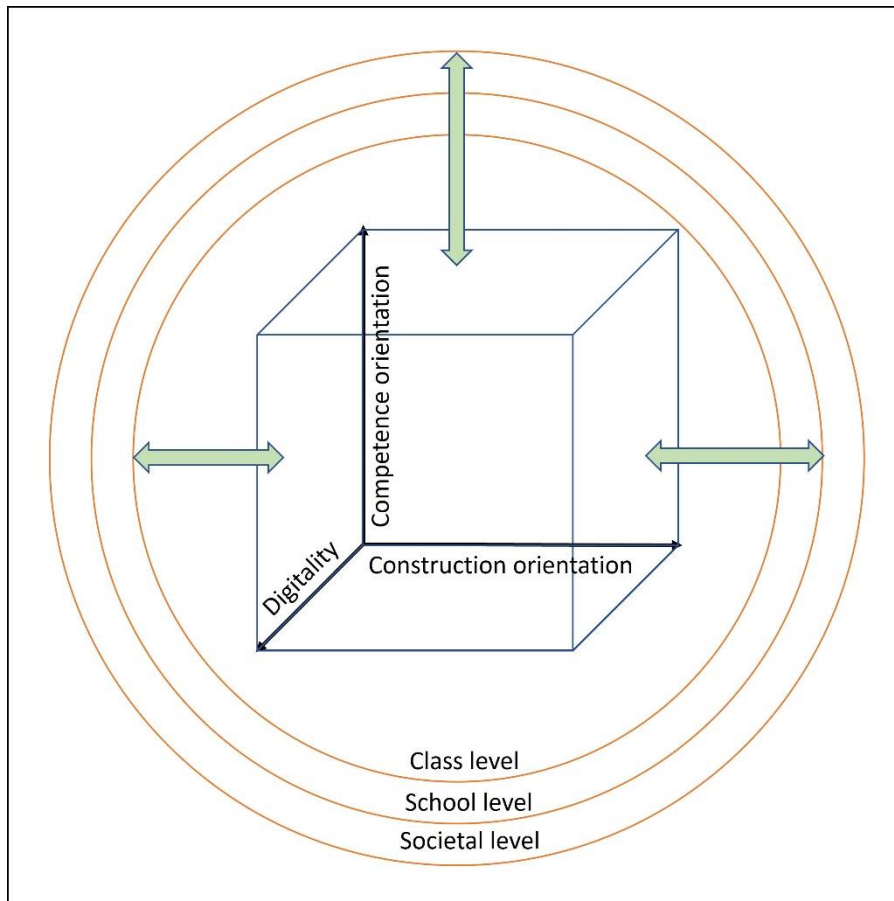


Figure 2: Structural model of the Berlin Model 2.0

Unlike the original Berlin Model, Berlin Model 2.0 contains an educational and normative component. This is made explicit through the respective stages that are attained within the three decision-making dimensions (black arrows). The more comprehensive the development of a decision-making dimension, the more likely it is that it will meet the requirements of contemporary teaching. The sections on the individual dimensions outline what can be considered ‘contemporary’ in each case. If the three decision-making dimensions of the Berlin Model 2.0 are considered together, a three-dimensional decision-making space emerges - represented in the graphic as a cube. The planning and design of lessons can occupy any point within this decision-making space.

This ‘cube’ is, however, not an entity that is isolated from the wider world, but is rather surrounded by a complex environment. This environment takes up the *conditioning fields* of teaching as well as aspects of the *factor analysis* and can be sub-divided into several levels, the *class* at the *micro level*, the *school* at the *meso level* and *society* at the *macro level* (brown circles). Influencing factors between the teaching and its environment take effect via a type of ‘membrane’ (green arrows). The mutual influencing of teaching and environment takes place under conditions that are not ideal. As such, all the insights from teaching cannot be shared with the environment, nor can all demands, wishes and requirements from the environment be taken into consideration in teaching. In both processes, human interpretation and selection processes

take place, which make the afore-mentioned ‘membrane’ appear selectively permeable, figuratively speaking.

3.3 Decision-making dimensions of the planning and analysis of teaching

The three decision-making dimensions in the Berlin Model 2.0 are viewed as having equal importance and value, as mentioned earlier. They cannot be considered, planned and analysed in isolation from each other. The focus of this paper on digitalisation as one of the key challenges of our time and the required culture of digitality leads us to begin with an explanation of the decision-making dimension related to digitality.

Digitality

Heimann’s (1962b, 14, 18f.) reflections on the original Berlin Model included his new recognition of the revolutionary character of the, at that time, new (mass) media “film, radio, television” („Film, Funk, Fernsehen“) (Heimann 1962b, 14), which were brought about by technological advances. Thus, he (Heimann 1962b, 14, 18f.) assumed that these ‘new’ media (film, radio, television) would not only bring about a traditional change in style but a complete cultural change. For him (Heimann 1965, 7), this justified the necessity of changing the established forms of school and teaching, that is to say the institutionalised processes of teaching and learning. Humanity today is also experiencing a similar change in culture to that Heimann (1962b) describes, only this one is being caused by digital media. Habermas (2022, 39, 43f., 46f.) states that the difference between the linear forms of mass media and digital media lies in the fact that the former made people recipients and consumers of content, whereas the latter allows all people to also become broadcasters and producers of this content. In this context, he (Habermas 2022, 29, 46f., 64ff.) refers to the often insufficient competences of users of digital media, as well as the often “inadequate political regulation of new media” („unzureichende politische Regulierung der neuen Medien“) (Habermas 2022, 29) and emphasises that it is essential to enable all people to gain a comprehensive level of media competence, on the basis of which they can act as critical consumers, as well as responsible producers, of digital media.

Stalder (2016) comprehends the social structures and processes that accompany digitalisation using the concept of the culture of digitality. For him, the use and the production of (digital) media has achieved the status of a cultural technique. The corresponding dimension of decision-making is termed digitality in the Berlin Model 2.0 and describes the extent to which teaching takes up and reflects the culture of digitality. As such, the main intention is to deal with the discussion of the question of added value, which still determines the use of digital media for teaching and learning purposes.

In the decision-making dimension related to digitality in the Berlin Model 2.0 it is postulated that digital media should be integral elements of teaching. This cannot come about through a simple ‘exchanging’ of analogue media for digital media. Equally, it also cannot be about ‘supporting’ teaching with digital media. As such, Pargmann et al. (2022, 14) must be concurred with when they state that it is not sufficient to use explanatory videos, quiz apps or the digital whiteboard in lessons. Rather, digital media should be viewed as learning objects as well as

didactic and method design elements, which demand new forms of teaching and learning processes (see Steib/Stoffers 2022, 297). These new forms take up the conditions of a culture of digitality if they, following Stalder (2021; 2016), incorporate three fundamental phenomena in teaching (for a pedagogical and classification and interpretation of these phenomena, see, for example, Lukjantschuk 2022; Anders 2021; Krommer 2021; Schulz 2021).

- *Referentiality*: The concept of referentiality indicates that each person constructs their own frame of reference with the aim of meaningfully structuring the digitally available information. This may be expressed, for example, in the choosing of particular cultural content and in using them for one's own media production. When applied to the planning and analysis of teaching, the main aim is always to support the learners in constructing their own frame of reference. For example, against this background it can be stated that (1) for teachers the task is to prepare information so that it is accessible for all. (2) Contemporary teaching uses a range of different sources (such as Open Educational Resources) and enables the learners to research these sources themselves and assess them critically. In view of the vast availability of information it is no longer the case that teachers hold sovereignty over interpretation through a monopoly on information (for example, through the use of a text book as a single source). (3) Contemporary teaching supports the learners in gradually setting up and constantly reflecting upon their own frame of reference. Suitable approaches for this include forms of reflective writing, such as keeping a competence development portfolio. (4) Contemporary teaching enables the production of media using valid sources. This can occur, for example, through learners working on the project-based development of explanatory videos. Alongside these rather general manifestations, referentiality can also be interpreted through subject didactics. For vocational education and training (VET) these could include learners framing their considerations on the internet presence of their training company.
- *Communality*: The concept of communality refers to the fact that the wealth of information associated with digital media can hardly be dealt with by the individual. Rather, collectives are required, which support individuals in assessing and selecting information. Integration into a collective of this kind produces the feeling of belonging to a social group – viewed in an ideal-typical way this means that voluntary collectives are formed in social networks. The foundation for this is created by promoting the autonomy and self-determination of the learners, and also through participation in the didactic and methods-related design of teaching, as well as recognising the diversity of all participants. With reference to teaching there are numerous interpretations of communality that can be mentioned and which will be briefly outlined here using examples: (1) Contemporary teaching makes use of digital media which allow for synchronous and asynchronous work on projects (for example, Kanban boards, collaborative mapping and so on), in order to promote learning in social contexts which feature mutual respect. (2) Communality in the context of contemporary teaching can also be achieved if the teaching opens up towards different environments. This can be expressed, for example, in projects involving a number of classes at school level or in interactions at the societal

level, for example, if a class writes its own blog which reports continuously on learning content, insights and/or opinions on school-related or societal developments. In the VET sector, a teaching concept could include jointly creating a wiki which outlines in a structured manner the most important concepts and their reference points from the different learning fields of the curriculum. In so doing, the learners could work together with actors from other classes, schools or institutions (for example, training or work experience companies, chambers, associations, and so on).

- *Algorithmicity*: Algorithmicity takes into account the fact that new technologies are expanding the abundance of available information, but they also select, channel and structure it. With regard to this phenomenon, possible interpretations for teaching can merely be mentioned using a small number of examples: (1) Contemporary teaching is open towards technological advances and artificial intelligence. Therefore, with the help of learning analytics, for example, a variety of data can be generated about learners, which can be used to improve individual learning strategies, learning outcomes and education and training pathways. However, the interpretation of these data requires a critical, emancipated and professional stance on the part of the teachers. (2) Contemporary teaching enables learners to critically reflect upon algorithms. In this context, there is a need for a perspective involving media and pedagogical competence, from which position learners can ascertain how truth and reality manifest in a culture of digitality and which challenges these constructs face in view of fake news, alternative facts and so on. (3) Contemporary teaching takes into consideration that algorithms can represent a resource for learners, which must be used and worked with. For VET this means that learners should understand how algorithms function. This can be supported, for example, by learners developing a strategy so that their own training company can be found faster in an internet search. (4) Contemporary teaching supports learners to interpret results from the algorithmic processing of data (data mining). Smart data will become increasingly relevant in vocational education and training in view of the increasing spread of ERP systems, complex data banks, and so on.

Based on these explanations, the continuum for the decision-making dimension of digitality will now be drawn up. The starting point is teaching which does not take up the three outlined characteristics of a culture of digitality, excludes digital media and is characterised by orality. It continues with teaching which uses digital media sporadically and predominantly to replace analogue media (whiteboard instead of blackboard, quiz app instead of a worksheet, and so on). At the far end of the continuum, teaching takes up the conditions of a culture of digitality in a constructive manner, combines synchronous and asynchronous learning, creates space for action and decision-making and also promotes learning which is a shared process, for which learners take responsibility themselves, are critical of media and work creatively with media. A concrete end point is not (yet) foreseeable in view of the potential future technological developments.

Competence orientation

There is a consensus that the main aim of VET is to support learners' vocational competence. These can be divided into different sub-dimensions according to each competence model. Reetz (1989) bases his interpretation of vocational competence on Roth (1971) and specifies vocational competence to act through three sub-competences: self-competence, subject and method competence and social competence. Although these three sub-competences should, in principle, be viewed as of equal importance, in VET practice at the learning site of the school subject and technical competence is dominant (see Müller 2016, 456), even more than 25 years after the approval of framework curricula along the principle of fields of learning. This is almost certainly due to the fact that the content that is outlined in the curricula primarily addresses facets related to subject competence (see Tenberg/Bergmann/Lannert 2022, 108). Often, it is even possible to identify a reduction to subject knowledge as a facet of subject competence.

A fully-developed subject competence is also necessary in the context of a culture of digitality (see, for example, SWK 2022, 101ff.; Sczogiel et al. 2019). However, in the context of the increasing use and substitution possibilities of robots and algorithms (see, for example, Diewald/Andernach/Kunze 2020) it is clear that in the future genuinely human domains of competence, such as social, creative or dispositional competences, will become increasingly more significant so that human workers can distinguish themselves from the machines that are competing for their jobs. These competences, which are not bound to particular subject content, are defined in various different ways. In vocational education and training, overarching competences are often spoken of, which are consistent with the competence model outlined above involving competences related to social competence, self-competence and personal-competence (see, for example, Tenberg/Bergmann/Lannert 2022; Müller 2016). Parallels can be drawn with the concept of 21st century skills used in international educational research discourse, which also emphasises social and personal competences. In this context four key competences are accentuated which are known as the 4Cs (or, in German, 4Ks), that is to say: Critical thinking, Creativity, Collaboration and Co-operation (see, for example, Sterel/Pfiffner/Caduff 2018; Trilling/Fadel 2009).

Linked to this discourse, Müller (2016, 457) differentiates vocational competence into a subject component, a method component, as well as an overarching component. The subject and the method components correspond to subject and method competence. This includes vocational knowledge related to experience (see Rebmann/Tenfelde 2008, 108ff.) “and organisational, process-related, task-related and job-specific vocational skills and knowledge (...) as well as the ability to meaningfully classify and assess organisational knowledge, to identify problems and to generate solutions” („organisations-, prozess-, aufgaben- und arbeitsplatzspezifische berufliche Fertigkeiten und Kenntnisse (...) sowie die Fähigkeit, organisationales Wissen sinnorientiert einzuordnen und zu bewerten, Probleme zu identifizieren und Lösungen zu generieren“) (Kauffeld 2003, 178). The overarching component is sub-divided into self-competence and social competence and the 4Cs can be allocated to these. Self-competence includes critical thinking and creativity:

- *Critical thinking*: Critical thinking should be understood as the skill to be able to reflect critically upon prevailing paradigms on the basis of a multi-perspective understanding of the subject. This includes, in particular, the questioning of company-based practices and techniques (see Wicke/Kiepe/Schlömer 2019, 4; Kutscha 2018).
- *Creativity*: It is not straightforward to capture the concept of creativity and to transfer it to the vocational context, since creative achievements must be assessed in their specific domains. As such, creativity can be understood in a rather general way as the skill to develop ideas which are innovative and useful but can also be implemented (see Nett 2019; Palmer 2016, 28f.)

Social competence comprises collaboration and co-operation:

- *Collaboration*: Collaboration can be understood as a particular type of inter-disciplinary, heterarchical and problem-oriented or theme-oriented co-operation. In order to work together in this way, people require, among other things, the ability to work in a team, to deal with conflict, to build consensus and a willingness to assume responsibility (see Ehmer 2017).
- *Communication*: Communication skills enable people to deal with social interactions in multiple (including intercultural) contexts in a linguistically appropriate manner and with a goal-oriented approach. This includes, on the one hand, spoken communication and, on the other hand, the production of texts (see Efing 2012).

Following the conceptual explanation of the decision-making dimension of competence orientation, the continuum will now be outlined within which the design of teaching is located. The starting point is teaching which does not promote subject and/or overarching competences. From this point the continuum develops towards teaching which still has a focus on ‘subject matter’ and develops subject knowledge, to teaching which aims to promote subject-specific and overarching competences equally.

Construction orientation

The decision-making dimension of construction orientation in the Berlin Model 2.0 distances itself from the narrow concept of *method*, which is used in the original Berlin Model (see Schulz 1965, 30ff.) and refers to the afore-mentioned assumptions related to teaching and learning. Using this concept of method the planning and analysis of teaching with regard to this decision-making dimension would be reduced to purely method-related decisions and would also intimate that a particular method is per se superior to other alternatives or that the effectiveness of the teaching arrangement depends on particular methods. This approach, however, does not do justice to the complexity of the planning and analysis of teaching and falls short, through its reduction of the event of teaching to a mere observation of the surface. Admittedly, characteristics of teaching are located at the surface, which can be observed and elaborated upon without any difficulty, such as certain social or teaching forms and methods (see Lipowsky 2020, 103), but key elements of successful teaching and learning processes are embedded in their deep psychological and didactical structure (see Lipowsky 2020, 104; Reusser 2008, 231f.). In this

context, the main focus is on enabling the learners to engage in the active and independent construction of viable knowledge. Empirical teaching and learning research has identified three particularly significant fundamental elements in order for this to occur (for an overview of the empirical findings, see, for example, Klieme 2022; Lipowsky 2020; Praetorius et al. 2018):

- (1) *Cognitive activation*: The fundamental element of cognitive activation means that the learners are confronted with complex problems, cognitive work is stimulated and discursive exchanges are initiated. Firstly, referring to the theoretical assumptions relating to teaching and learning for the didactic and method-related design of teaching, complex teaching and learning arrangements are taken into consideration that require problem-solving thinking (see, for example, Fölling-Albers/Harteringer/Mörzl-Hafizovic 2004). Secondly, collaborative learning must be encouraged (see, for example, Dillenbourg 1999), in order to enable the joint construction of knowledge based on the theoretical assumptions relating to teaching and learning. Thirdly, teaching must take into account the learners' worlds, in terms of life and work, whereby for vocational education and training occupational and professional practice at work are particularly relevant. As such, process orientation related to action, work and business can be viewed as guiding principles that form the foundation for the design of authentic teaching units (see, for example, Tramm 2003).
- (2) *Constructive support*: In the key element of constructive support, great significance is attached to considering the class climate and the teaching climate, on the one hand, as well as processes related to group dynamics and, on the other hand, to recognising individual differences. Examples of this are formative assessments and constructive feedback or scaffolding (see, for example, Schildkamp et al. 2020), which can be used in the context of the aforementioned zone of proximal development (see, for example, Saye/Brush 2002).
- (3) *Classroom management*: The key element of classroom management includes the actions of teachers that increase the active teaching and learning time. This implies, for example, preventing and responding to disruptions in lessons as well agreeing upon and upholding rules and routines (see, for example, Everston/Emmer/Worsham 2002). This does not mean, however, prescribing or controlling the learners' (learning) behaviour.

The three key elements admittedly overlap, at least to some extent. For example, classroom climate is an important factor in classroom management, but must also be taken into consideration in relation to cognitive activation and constructive support.

At this point, the continuum will be determined for the decision-making dimension of construction orientation. Teaching which neither promotes the active and independent construction of knowledge nor supports learners nor provides structures, represents the baseline. The continuum encompasses teaching which provides 'knowledge transfer' and behavioural 'control' by the teacher. At the opposite end of the continuum there is teaching which does not fully reject classroom management, but nonetheless provides the teachers with possibilities for action, decision-making and forms of behaviour, thereby taking into consideration collaborative

problem-centred learning and using various different formative feedback and support possibilities.

3.4 Levels of lesson planning and analysis with regard to the environment

Teaching does not take place in isolation from external influences, but rather is embedded in formal and informal structures (see, for example, Fend 2014). As such, there are various different interest groups (stakeholders), each with their own different expectations and demands and with different types of (power) mechanisms that they deploy in order to influence the design of lessons, either directly or indirectly (see, for example, Seitz/Capaul 2020; Altrichter/Helm 2011). Accordingly, teaching and its relationship structures with the various interest groups can be understood to be complex social systems, which can be discussed as multi-level phenomena. In the literature, a sub-division into a macro-, a meso- and a micro-level is often made (see, for example, Altrichter/Maag Merki 2016, 10; Terrasi-Haufe/Roche/Riehl 2016), and the Berlin Model 2.0 also refers to this sub-division.

Macro-level: Society

The term ‘society’ is used here to express in a simplified form all political, economic and socio-cultural influences which influence teaching through formal or informal power structures and as such must be taken in to consideration for the planning and analysis of teaching (see Heimann 1962a, 422f.). At this point only a small number of these influences can be mentioned as examples. With regard to (educational) policy, curricula and decrees which influence teaching directly must be mentioned particularly. With regard to the economy, proposals are expressed which, for example, call for stronger vocational orientation (see, for example, Bigos 2020). For vocational education and training, the interests of the economy are also present in the consideration of co-operation between learning venues (see Faßhauer 2020) or taking into account (sectoral) developments with regard to content or methods (Wilbers 2017). From a socio-cultural perspective there is an expectation that teaching refers to current affairs in order to prepare for an independent way of life as well as a responsible and emancipated role in society. For the 21st century this means, for example, to be able to deal with and to help shape a world which is often referred to in the literature using the acronym VUCA. This acronym stands for Volatility, Uncertainty, Complexity and Ambiguity (see, for example, Shliakhovchuk 2019; Bennett/Lemoine 2014).

Meso-level: School

Schools are complex social systems, which have a wide variety of different tasks to fulfil, which directly or indirectly affect teaching. Completing these tasks requires there to be co-operation within the school – be that vertically between teachers and school leaders or horizontally between teachers (see Rolff 2022, 1355ff.). This encompasses, for example, creating and working collaboratively within multi-professional teams which include, alongside (special educational needs) teachers and educational psychologists, school social workers, integration specialists and other members of staff, all working towards realising the goal of inclusive education (see Huber 2015). Implementing a school quality management system is pivotal for

fulfilling these tasks (see, for example, Gramlinger/Jonach/Wagner-Herrbach 2018; Kasper 2018). In this context, developing a school programme must also be mentioned, which should be understood to be an expression of a school's responsibility for itself and should be used to create the school's profile (see, for example, Wurster/Rettinger/Feldhoff 2020). Developing curricula for the school also has a significant influence – for vocational education and training on the basis of the curricula and the fields of learning (see, for example, Tramm/Naeve-Stoß 2020). These internal school curricula not only sequence teaching content in terms of timing and content but they also specify, according to the level of detail included, which didactic and methodological process of conceptualisation concepts a specific lesson is based on. Following these developments in society more broadly, digitalisation will now be introduced, which must be referred to as an “on-going task” („Daueraufgabe“) (Viertel et al. 2022, 465), at the latest since the Corona pandemic and can have extensive influence on school organisation, school equipment and the design of lessons.

Micro-level: The class

The influences at the level of the class overlap in many aspects with the anthropogenic prerequisites in the original Berlin Model (see Heimann 1962a, 422). As such, the planning and analysis of teaching refers to a large extent to the results of the investigation of this field of conditions. The factors that the learners are required to analyse cannot be fully represented in their large number and complexity. Albrecht et al. (2014, 8ff.) point out in this context that the standard characteristics of the heterogeneity of a class (age, gender, social background and prior education) can be seen to be merely the tip of the iceberg. In addition, numerous further aspects must be considered which, depending on each subject (or field of learning) and class level, should be selected and analysed. In the context of inclusive education, particular mention should be made of disabilities or impairments and/or the presence of special educational needs, as well as the learners' language competence, which can differ widely, and not only because of the learners' respective social backgrounds (see, for example, Siemon/Kimmelmann/Ziegler 2016); aspects of heterogeneity which have a considerable influence on the planning and analysis of lessons (see, for example, Gillen/Wende 2017).

4 Conclusion and outlook

The Berlin Model 2.0 discussed in this paper is presented as a suggested model of contemporary teaching. It deals with a number of the key points of criticism of the original Berlin Model in that it does not attach the planning and analysis of teaching to technical processes, but rather emphasises the complexity of teaching in the three-dimensional model and in the multi-level structure of the environment. It also comprises an educationally normative component and clarifies which understanding of teaching and learning it is based upon. However, it makes no claim to provide a didactic theory of ‘good’ or contemporary teaching, and also does not aspire to offer ‘optimal’ solutions regarding the influences and circumstances under which didactic and methodological decisions should be made in order to design contemporary teaching. Rather, it aims to elucidate which type of teaching does *not* correspond to the assumptions of the model

and is *not* contemporary (see Riedl/Schelten 2013, 14). This teaching, which is not contemporary, would correspond to the type of teaching which Stadler (2016, 9) summarises using the term ‘10-G’ teaching, referring to the German word *gleich*, meaning the *same*: “All learners of the same age, at the same time, in the same subject, with the same teacher, in the same room, have to give the same answers with the same resources, the same things, the same questions, at the same time.” („Alle Gleichaltrigen haben zum gleichen Zeitpunkt, im gleichen Fach, beim gleichen Lehrer, im gleichen Raum, mit den gleichen Mitteln die gleichen Dinge zu den gleichen Fragen in der gleichen Zeit die gleichen Antworten zu geben.“) (Stadler 2016, 9).

In addition, the model indicates synergies which are favourable for realising contemporary teaching. (1) All the dimensions indicate the significance of collaborative learning. (2) All the dimensions emphasise the initiative and the self-determination of the learners. (3) The role of the teachers corresponds to that of a learning guide who provides support and values individual feedback and formative assessment. These three aspects go hand in hand with the three fundamental psychological needs according to Deci and Ryan (1993): social inclusion, experiencing competence and support for autonomy.

Tenberg, Bergmann and Lannert (2022, 115) refer to an aspect that must also be mentioned with regard to the value of overarching competences: elements which cannot be diagnosed, or only with great difficulty, will not find their way into day-to-day lesson planning and analysis. This paper agrees with these authors that there are considerable deficits in this context. As such, the centralised final examination at the end of a dual apprenticeship must also be viewed critically, since it functions all too often as a “hidden curriculum” („heimlicher Lehrplan”) (Tenberg 2006, 152) and therefore causes a reliance on learning material which the Berlin Model 2.0 perceives as insufficient as an exclusive guiding principle for lesson planning.

It is important to indicate once more that the discussion proposed in this paper requires further detailed work. For example, finding out how the interaction between teaching and its environment occurs, which precise mechanisms teaching practice can use in order to influence the various different requirements of the different stakeholders. In this context (vocational) educational research can certainly take on an important role. Equally, the suggested decision-making dimensions, as well as their immanent assumptions and constructs, should be further discussed. With regard to the dimension of construction orientation there is a considerable body of empirical work that can be referred to. In the two other dimensions, however, there are still unanswered questions: for example, in the dimension of competence orientation there is a particular focus on the conceptual clarification of the concepts, models and (partial) competences to be found there. With regard to the dimension of digitality there is, however, the greatest need for clarification. In this context there are neither empirical studies nor best practice examples from vocational education and training. The discourse regarding the planning and analysis of contemporary teaching could certainly benefit from such findings – as well as from a wide-ranging discussion within education, vocational and education training, vocational education research and subject didactics. The Berlin Model 2.0 aims to initiate these discussions.

Finally, even if this paper initially focuses exclusively on digitalisation for reasons of manageability, it is important to point out that the medium-term goal must, of course, be to develop a

comprehensive didactic theory and a corresponding didactic model, which combines together all the key challenges of our time (realising digitalisation, dealing with the climate crisis, defending democracy etc) and unites their respective advantages (see, for example, Ketschau/Steib 2023; Slopinski et al. 2020).

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The Authors



Dr. ANDREAS SLOPINSKI

Carl von Ossietzky University of Oldenburg, Fachgebiet Berufs- und Wirtschaftspädagogik

Ammerländer Heerstr. 114-118, 26131, Oldenburg, Deutschland

andreas.slopinski@uni-oldenburg.de

<https://uol.de/bwp>



Dr. CHRISTIAN STEIB

Carl von Ossietzky University of Oldenburg, Fachgebiet Berufs- und Wirtschaftspädagogik

Ammerländer Heerstr. 114-118, 26131, Oldenburg, Deutschland

christian.steib@uol.de

<https://uol.de/bwp>