Perspectives on Education in the Digital Age

BILDUNG IN THE DIGITAL AGE

EXPLORING BILDUNG THROUGH DIGITAL MEDIA IN EDUCATION

Edited by David Kergel, Michael Paulsen, Jesper Garsdal, and Birte Heidkamp-Kergel

ROUTLEDGE

Bildung in the Digital Age

Bildung in the Digital Age explores the challenges and potentials of digitalization for educational theory and practice and identifies how the pedagogical concept of Bildung can be used to meet these demands.

Discussing the educational landscape of a pandemic and post-pandemic world, the book describes how digitalization changes the media foundation of learning and teaching. It further raises questions of how we could think about Bildung in a digitalized world, how Bildung-based online teaching and learning can be implemented, and whether it is possible to understand Bildung and its emphasis on individual freedom and self-determination as a counter-concept to digital surveillance capitalism.

The book will appeal to academics, researchers, and postgraduate students in the fields of digital learning, educational theory, and media education.

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Perspectives on Education in the Digital Age
Series Editors: David Kergel and Birte Heidkamp

The process of digitalization is leading to a fundamental social change affecting all spheres of social life. In the pedagogical field, there is a need for re-structuring key concepts such as learning, teaching, and education that considers socio-economic and cultural changes.

Perspectives on Education in the Digital Age explores the process of coming to terms with socio-economic and socio-cultural shifts arising from digitalization and discusses this process with reference to its effects on education. The series provides a forum for discussion of critical, integrative analyses of social transformations in the digital age, drawn from different fields such as the humanities, social sciences, and economics. The aim of the series is to analyze the implications of cultural change on education in the digital age by bringing together interdisciplinary dialogue and different theoretical approaches.

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Introduction

The German notion of Bildung is one of the most prominent concepts in continental education According to Humboldt, Bildung can be defined as a process of holistic cognition through which the subject appropriates the world (rationally) and thus recognizes the world, himself as individual and as part of humanity: Through Bildung, man constructs and qualifies his relationship between himself and the world. Accordingly, Bildung can be considered as the cultivation of the self by the self. Yet, Bildung is also a pedagogical and emancipatory concept, stressing that the self-cultivation process always takes place on a specific historical stage as part of the whole development of humanity, where good educators should try to support the growing up individual to transcend its narrow social environment (socialization) and instead appropriate "the hitherto best of humanity," but also individualize this and move one step further creatively and innovatively. Thus, Bildung is a kind of emancipation, where the individual is encouraged to, supported to, and challenged to become an autonomous and actively contributing member of humanity. From an epistemological point of view, Bildung is therefore also an "activist version" of the subject, which appropriates the world through action and self-determined learning, in which the individual constructs a self/world relationship. From this point of view, Bildung is more than just the adoption of knowledge. As a process, Bildung aims to produce knowledge as a manifestation of an active self and world relationship. From a pedagogical point of view, Bildung bears consequences for a Bildung-oriented didactic: How precisely should educators today encourage, support, and challenge the Bildung of the individual? What are the possibilities and main challenges of contemporary world society with regard to Bildung? The ambition of this book is not to answer these questions completely exhaustive but rather to focus on one of the major trajectories of contemporary society, namely, the increasing digitalization, technification, and algorithmic prestructuring of the lifeworld, giving rise to the following questions and issues in connection to Bildung:

a Are the emancipative aspects of Bildung still valid?
b Is it possible to transfer the notion of Bildung into the digital age?

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c What could "Digital Bildung" look like?
d How does a media-ecology of Bildung in the educational field look like?
e How is it possible to implement Bildung-based online teaching and learning?

The book re-contextualizes the educational-epistemological concept "Bildung" in the digital age.

Epistemological aspects of Bildung and digitization are discussed in the group context of pedagogical issues. In addition, the possibilities and limitations of Bildung-based pedagogical practice will be demonstrated in an application-oriented manner. This interweaving of epistemology and the educational practice of Bildung is a unique selling point of the book. In addition, the volume brings together internationally recognized authors from various countries, which is also a unique selling point of the book.

The digitalization changes our world increasingly and therewith our lives. This digitalization process affects our lives on micro-, meso-, and macro-level. Also, the digitalization changes the "media-foundation" of learning and teaching processes increasingly.

Educational concepts and didactical strategies have to face the challenges of the digital turn and its collaborative potentials. Approaches to teaching from primary school to higher education need to be based on educational concepts and theories that take account of the increasingly digitalized world. The challenges and potentials of digitalization require both an appropriate theoretical, epistemological, and ethical foundation as well as practice-orientated approaches. To meet these demands, the pedagogical concept of "Bildung" can be used. Developed by thinkers like Humboldt and Hegel, the basic idea of Bildung is that the subject unfolds itself within educational contexts – "Bildung is the cultivation of the self by the self" which stresses the autonomy of the individual. Bildung has been an important educational key concept – reflecting on both the purpose/aim of education and how education should and could proceed. Crucial questions which are addressed by the contributors are as follows:

- Is Bildung still relevant today?
- How should we think about Bildung today in a digitalized world?
- How can the Bildung concept be helpful today?

To answer these questions and meet the book's epistemological goals, the book is divided into three sections:

- Section A – The Epistemology of Bildung-Based Teaching and Learning
- Section B – Bildung-Based Teaching and Learning in the Digital Age
- Section C – Online Teaching and Learning in Times of Crises

In the first section, epistemological aspects of education in the digital age are developed. Epistemological and educational aspects are related to the process of digitalization.

In the second section, education-based approaches for pedagogical practice are presented and discussed in an application-oriented way.

In the third section, digital innovations in teaching are presented, which have been developed in the context of the "Corona-Pandemic/the Corona crisis."

The Corona pandemic acted as an innovation shock to digital teaching. For example, in higher education didactics, comprehensive, purely online-based teaching had to be developed ad hoc. Results of these e-didactic crisis interventions are presented here and thus made accessible to reflections on Bildung theory. Based on these considerations, the aim of the book can be summarized as follows.

The aim of the book is to outline, discuss, and situate the concept of Bildung in a digital age. Being of one the most important pedagogical concept within continental educational theory, the book seeks to explain the Bildung concept to an English audience and consider/demonstrate its pedagogical relevance in an increasingly digitalized, technified, and globalized world.



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Section A

The epistemology of Bildung-based teaching and learning



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Chapter 1

Bildung and technology

Historical and systematic relationships

Michael Paulsen

Introduction

The German word and concept of "Bildung" belong to the discourse of emancipation and critique (Masschelein & Ricken, 2005) and can be translated as "self-cultivation" (Bruford, 1975), "self-formation" (Sorkin, 1983), or "self-development" (Tahirsylaj & Werler, 2021), as well as longer phrases such as "transformation of the relationship between self and the world" (Brinkmann, 2019) or "keeping oneself open to what is other" (Eckberg & Schwieler, 2020). Yet, standing alone, such translations – centering around the black-box notion of the self – do not say much and are potentially misleading (Tække & Paulsen, 2021). The matter is difficult because different and conflicting usages and theories of Bildung exist. The concept flourishes heterogeneously in languages such as Danish (*Dannelse*), Swedish (*Bildning*), and Norwegian (*danning*). Moreover, the concept gets its meaning from a long diachronic line of educational thinking, with the Ancient Greek *paideia* and Latin *humanitas* as forerunners to modern Bildung thinking, and postmodern ideas of *becoming* as its successor (Paulsen, 2021a). Furthermore, Bildung, in addition to being a theoretical concept, is also a political and practical guiding framework in both formal and informal education in the European "Didaktik-countries" (Tahirsylaj & Werler, 2021).

It is, therefore, an ambiguous term. Literally, *Bild* means "image," and Bildung can be understood as (1) the process in which someone becomes similar to an image and (2) as the result of such processes. Etymologically, the word *Bildung* is related to translations of Latin *imāginātio*, which transforms into *Bildung* in thirteenth-century Christian mysticism (Koselleck, 2007; Paulsen, 2021a). Yet the concept changed when it became secularized in the eighteenth century, which I will return to later in this chapter.

In contemporary literature on Bildung, it is put forward that Bildung and technology are antagonistic concepts. Bildung theory is argued to hold a potential for criticizing instrumentalism and technification in modern educational politics and pedagogical thinking (Eckberg & Schwieler, 2020; Varkøy, 2010). It is as if the two concepts refer to two opposing understandings of

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human being and the world (and educational processes as well). The Bildung concept emphasizes human freedom, the diversity of the world, and ideal education as the most "unrestrained" interplay between the self and the world, articulated in Humboldtian terms (Brinkmann, 2019). Technology, understood as a world understanding (Heidegger, 1954), comprehends human beings, the school, and the world as calculable objects, instruments, and resources that can be managed, manipulated, and ordered to optimize certain outcomes (Paulsen, 2019).

This antagonism can also be traced within educational theory (Hansen et al., 2019). On the one hand, one finds *technical* understandings of education, in which teaching is grasped as something that can be designed algorithmically by well-produced teachers (and/or robots/computer programs), selecting and using appropriate means to realize given ends. On the other hand, one finds *voluntaristic* understandings of education, in which teaching is comprehended as not programmable because it consists of unique meetings between non-replaceable singular human beings interacting with each other in unpredictable ways (Hansen et al., 2019). In other words: an understanding constraining education as a techno-bureaucratic space (Roy, 2003) confronts an understanding constraining education as a free place for individual self-development (Biesta, 2017). Yet there exist Bildung theories that go beyond this antagonism as one of their main motives, as I will demonstrate later in this chapter. Also, Bildung, education, and teaching are impossible without the use of technology (Tække & Paulsen, 2021). As I argue below, all teaching is technically mediated.

There are therefore at least two problems with the antagonistic story. First, there exist different theories of Bildung establishing different relations to technology. Thus, Bildung is not one thing but a heterogeneous concept. Second, the relationships between Bildung and technology are more heteronymic that the antagonistic story would assume. In what follows, I explore this heterogeneity first by a detour into the history of Bildung. This diachronic multiplicity shows shifts in the relationship between Bildung and the technical media ecologies through which new thoughts of Bildung spring, respond, and alter. Second, I explore the heterogeneity of the relationships between Bildung and technology through a detour into an analysis of four different kinds of Bildung – two vulgar (i.e., common) variations and two reflective variations of Bildung thinking, each establishing different relations to technology, including digital media.[1]

Part one: The historical multiplicity of Bildung and technology

In what follows, I outline a lineage in the Western humanistic educational tradition that begins with the development of the *paideia* concept in Greek antiquity, continues into the developments of the concept of humanitas

in the Latin world (Roman Empire and Italian Renaissance), and further translates into the modern Bildung concept as well as postmodern ideas of becoming. This lineage shows both a continuity and a heterogeneity that can only incompletely be demonstrated here. The main argument is that Bildung thinking is part of this historical multiplicity and receives its full meaning hereof. Second, I will show that this historical multiplicity has been developed in connection with the co-development of technical media ecologies, which successively include oral language, writing, printing, electronic and digital media but also, as part of this, shifting political conditions (the polis, the empire, modern states, and global world society). In Table 1.1, I have outlined the four epochs I will focus on.

Paideia, oral language, and the poleis

The concept of paideia arose in ancient Greek culture to denote a child's upbringing within the *poleis* (plural for polis, literately meaning "city"). However, the concept gradually gained several meanings. For a time, it denoted the task of shaping an aristocratic male youth. Here, paideia concerned gentlemen's activities such as fencing. In the fifth and fourth centuries BC, the concept gained a broader meaning, signifying the lifelong project of becoming a good citizen. Paideia thereby became a key concept in ancient Greek culture (Andersen, 1999; Korsgaard, Kristensen, & Jensen, 2017; Straume, 2013). The question of paideia was taken up and treated most of all by Plato (Jaeger, 1973).

Plato describes his view on paideia most vividly in his Allegory of the Cave (Heidegger, 2002; Plato, *The Republic*, book 7). Here Plato describes that *lack* of paideia can be compared to a group of people who sit chained in a cave, only able to look one way, not able to relate to each other or turn around. In front of the cave prisoners, they see shadows on a wall, and these are all they can see and discuss. This situation corresponds to the polis, in which citizens compete about how life should be organized, but without being in dialogue with each other and without exploring and getting insights into what lies behind the prevailing ideas of a supposedly good city life.

Table 1.1 Historical overview

World	*Media ecologies*	*Key concept*
Ancient Greek world of poleis	Orality and writing as a supplement	Paideia
Roman Empire and the Latin world	Written language becomes dominating	Humanitas
German Enlightenment and the modern world of nation-building	A mix of oral culture, writing, and the printing press	Bildung
French postmodernism and the world society	Electronic and digital media, and especially moving images as important	Becoming

According to Plato, the prevailing shadowy thoughts are not completely wrong. What is wrong is the way citizens – lacking paideia – relate to these: they take the shadows to be their complete reality, as if they were not produced by and therefore reflecting something else, concealed for the citizens. Thus, lack of paideia is depicted as a situation in which people are bound to a narrow and derived image of reality that they take as the whole truth, not wondering about the (back)ground of the image. It is like a contest where everybody just says, "this or that should be done, then a good life in polis will materialise," and the most popular sayings then are selected as winners, without any standard, scale, or examination of what *goodness as such* really is. Or in other words, citizens are bound to the values and ideas that they are socialized to take for granted and order life in the polis according to them, without realizing that this is what they do.

Paideia, according to Plato, signifies a process in which the citizens break free, or are helped to break free, from this situation of self-concealment and begin to relate differently, turning toward what "lies behind" – that is, begin to examinate the assumptions that are used to guide practical and political decisions and actions. This "turning" is, for Plato, identical to philosophical dialogue and dialectical thinking aiming at insight into what goodness and related ideas such as justice are in themselves (exploring their conceptual content) and then after that begin to obtain experiences with how city life can be better organized on the basis of these now clearer ideas.

Yet, Plato does not argue that full paideia is ever possible. Paideia is thought of as an endless circular task, in which we (1) try to free ourselves from prevailing opinions (*doxa*), which we have acquired unexamined by way of imitating the language and culture we grew up in; (2) begin to reflect at a distance, from the practical and political life of the polis, on what goodness (and other relevant things like justice) really is; and thereafter (3) try to reorganize our lives in accordance with the achieved personal insight into goodness. Why is this task circular and infinite?

First, goodness as such (or justice as such, and so forth) can never be articulated in language and thus stated positively. This is one of the core insights Plato achieved through reflecting on the idea concept. An idea is like a mother who is only a mother and nothing besides a mother (Deleuze & Parnet, 2012). But in actuality, a mother is also a daughter and other things. But pure motherness, the idea of a mother, is identical to a mother who is only a mother and nothing else. Plato's thought is that if we gain insight into this "motherness," we acquire a standard by which to measure all real mothers and how close they come to the idea of the mother. Or more accurately, if we get insight into the idea of the good, we can measure and judge all actual attempts to be good by how close or far from the idea of goodness they are. And even further, if the rulers of the polis have this insight, they would rule better than those who lack such paideia. This is the (in)famous background for Plato to say that philosophers – those who have gone *longest* in the process

of getting insight to goodness – should rule the city. Yet, the main point is that it is impossible to articulate and think of goodness as such. Or if we do, we can only say that goodness is something that is good and nothing other than good. When we begin to relate goodness to other concepts, it is no longer pure goodness we describe.[2] This mean that insights into goodness, for Plato, are only possible as an intuition that language and dialectal thought (i.e., questions and answers) can lead to but not themselves realize within propositional thought; and likewise, when we "move back" to the real life of the polis to judge actual activities and reorganize, we must "translate" our insight into linguistic, articulable thoughts about what we, in language, can say and think is a good life. This implies that we would never be able to *fully* realize goodness as such; we can only bring ourselves closer or farther away from the idea of the good. This is the first reason Plato gives for the infinite character of the task of paideia.

The second reason has to do with the insight Plato achieved concerning the essence of human life. According to Plato, all humans (as citizens) face two problems. The first is that we *all* grow up like the prisoners in the cave: Unfree. This is because we are social beings who learn by imitating before we can think clearly. But then, how do we become free? If we, like the prisoners, cannot see what we cannot see, how do we realize that we are not free? We don't, Plato answered. Or at least, most of us don't. Yet, the shadowy thoughts are clues that inherently hint toward something beyond themselves, because of their shadowy character. Even if it is not likely, it is therefore possible that one day a man with extraordinary "detective" powers and inclinations to freedom begins to free himself – and then realizes that such freedom is inherent to what a good life means, and a good person, therefore, also has the duty to try to free his fellow citizens, disregarding that they don't see the point, don't want to be freed and might even want to kill this liberator. He therefore tries to free them anyway and thus starts a process in which more people might become free and also begin to free others. This extraordinary man was, for Plato, Socrates, and the other who then began to be free was Plato himself, or more generally, educators trying to support new generations to continue with the endless task of paideia.

Finally, Plato also had the insight that the human being is a composite being, one consisting of different parts that initially contradict each other – reason, desire, feelings – and therefore must be harmonized, both individually and collectively, to make a good life possible. This interpretation of the good as the harmony of different parts of human existence, which oppose each other, implies that the construction of human life will always be fragile and thus in need of ever new processes of paideia for new self-contradictory, disharmonious generations of people.

Isocrates, Aristotle, and others also contributed to the development of aspects of Greek paideia, putting, for example, more emphasis on practical issues than Plato (Beck, Kaspersen, & Paulsen, 2014). Yet despite all

heterogeneity, they all linked the paideia concept to the possibility of reflecting on and improving the life of the polis. The architectural invention, the academy, also served this purpose: To strengthen the city-state (Cassirer, 1970). Moreover, paideia was bound to oral language but included – more and more – writing as a secondary tool.[3] In Plato's writings, this shift is reflected in an almost paradoxical way – first, by the fact that most of these are presented as simulations of orally speaking people. Second, Plato used his writings to also criticize written language (Tække & Paulsen, 2021). Yet even oral language, to some degree, remained primary in Greek paideia thinking; the advancement of writing fostered the possibility of more reflective oral activities. An example case is the development of tragedies as written plays with dialogue, gradually substituting performances consisting of only dances, music, moving bodies, and the like. Plays like *Antigone* by Sophocles would hardly be possible without the medium of writing as a supplementary tool. Furthermore, the invitations to reflect on human existence immanent in the tragedies go beyond the non-reflective cave-prisoners in the allegory of Plato, indicating that the aim to "go beyond" and think deeper was not only proposed by Plato but part of the new spirit of the ancient Greek culture as a whole (including the internal conflicts between poets, philosophers, and sophists). The upshot is that the combination of *poleis*, developed oral culture with supported reflexivity through written language for poetical, philosophical, and political purposes, made up the technical media ecology that, on the one hand, made paideia thinking possible and, on the other hand, was reflected upon and modified critically by the very same practice. Put in a nutshell, the practice of paideia functioned as the self-critical reflexivity of the Greek poleis.

Humanitas, the Roman Empire, written language, and new city-states

The Roman statesman Cicero was one of the first to translate Greek concepts into Latin. Paideia then became *humanitas* and *cultura animi* (Korsgaard, Kristensen, & Jensen, 2017, pp. 41–42). Cicero emphasized that high-quality writings could contribute to enhancing the individual's character. Thus, Cicero argues that a Roman statesman should carry out a *studia humanitatis* (Sellberg, 1999, p. 78). By dealing with literature, philosophy, poetry, and human history, one can become a better statesman (Nielsen, 2007, p. 28). By this Latinization, the dialogical and dialectical process, outlined by Plato, where one is forced to think for him- or herself, is substituted by a process of dealing with human-written texts. The socialization process of the Roman city-life is thereby not countered by emancipative dialogue and thinking but by another socialization process, that of reading. The goal is to cultivate and expand the horizon of the statesman. In other words, it follows an imperialistic logic. An uncultured world must be cultivated and conquered.

This, however, took a turn in the Italian Renaissance (Sellberg, 1999, p. 77), opening up a new optimistic and aesthetic view of man and the cosmos (Cassirer, 1963). This involves that man comes into the center, as a being that can create itself without any outer given scale (Sløk, 1996).

This Renaissance humanism, where man is placed on a pedestal, peaks in Pico della Mirandola's *Oration on the Dignity of Man* (Pico, 2007). Pico begins his *Oration* by criticizing the arguments that have been raised so far on the merit of human nature – that humans, compared to other creatures, are more rational, more intelligent, etc. Characteristic of such accounts is that they do not explain why humans are entitled to the highest admiration; the human being is only seen as an advanced animal (cf. Aristotle). Since ancient times, the human being has therefore only been understood as a being equipped with a given potential that can, over time, become actualized. Instead, Pico argues that God has created the world as a stage whereupon man has no particular function, position, task, or nature. Man can therefore become what he wants. According to Pico, man has this openness in his being because he is created in the image of God. To be human is not to be destined for a particular way of life. This is the reason why humankind should be admired more highly than anything else. Finally, Pico links this to the Roman concept of *studia humanitas*. Through being acquainted with different expressions of human life (Greek, Roman, Persian, Christian, etc.), one does not only achieve the possibility of inspiration from as many sources as possible; one also realizes that different potentials can be created – that is, one is set free to create one's own way of life. Thus, humanitas is not thought of as living up to an order in the world. Instead, it is emphasized that it is the human individual who creates his order, and in that sense, it is up to that individual how to live properly.

The changes from Greek paideia to Roman humanitas and to Renaissance humanism reflect shifts in media ecologies. Where Plato based processes of paideia on oral dialogue, only supplemented by writings, Pico and the humanists based processes of humanitas primarily on written texts. And likewise, where the goal of paideia was to become a good citizen who can take an active part in the oral life of the city, the goal of humanitas goes in the direction of producing and executing texts (e.g., oratories, decrees, orders, letters). This reflects changes in the media ecology. First, in the Roman Empire, written language became more important, in short to hold together the empire (Innis, 1986). Second, the humanism of the Italian Renaissance evolved as textual battles. Pico, for instance, was the owner of a library consisting of texts from different cultures, which he makes numerous references to in his *Oration on the Dignity of Man*, which is also the background for his motive to transcend and subsume the many different views on man. Third, the difference between the *studia humanitatis* suggested by Cicero, directed toward cultivating the statesman to expand his horizon, and the humanism of Pico, aimed to release and elevate the individual, reflects the topical shift

from an Empire to independent city-states like Florence. Thus, Renaissance humanism returns to the emancipative project of Plato, but radicalizing it, abandoning any external order and also downplaying the political aspects of Greek paideia and Roman humanitas.

Bildung, Enlightenment, and the printing press

The Bildung concept arose at the end of the thirteenth century out of neoplatonic Christian mysticism, as articulated by Meister Eckhardt in connections with concepts such as "Imatio Christi" and "Imagio-Dei." These were – together with the humanitas concept – forerunners to the Bildung concept, which fosters the idea that human beings are created in the image of God and should become as close as possible to its arch image. Here, Bildung as a theological concept came to signify the process in which humankind becomes open to God and finally becomes one with God. Yet, this was partly happening before the Italian Renaissance unfolded, with neoplatonic thinkers like Pico, Ficino, and Cusanus, who found inspiration in Christian mysticism and the works of Eckhardt.[4] Thus, Bildung was, to begin with, a German variant of humanitas, with a theological rather than a secular semantic. This theological concept of Bildung became re-secularized in the eighteenth-century Enlightenment, and Bildung came to then signify the perfection of human potentials (Andersen, 1999; Gustavsson, 2017; Klafki, 2001; Koselleck, 2007, pp. 11–48; Løvlie, 2003; Straume, 2013).

The modern concept of Bildung arose at the end of the eighteenth century as a critical response to the vulgarizations of the educational Bildung literature. Kant and others argued that Bildung should not be understood as something initiated "top down" or from "the outside" (Koselleck, 2007). Instead, Bildung should be thought of as self-Bildung (Gadamer, 2003). Thus, modern Bildung signifies a process of self-realization; it highlights human freedom and is an anti-authoritarian concept (Larsen, 2014) related to the birth of the modern subject as a rational and self-determining individual with the endless task of self-development (Masschelein & Ricken, 2005). However, it was also thought that this self-realization should contribute to humanity as such. Bildung is, therefore, both a matter of taking up the whole human tradition so far developed and innovatively bringing it further. It is a dual concept addressing both individual self-development and cultural processes (Nielsen & Hylland, 2018; Tahirsylaj & Werler, 2021). Only through being together with other people and being part of human history is Bildung possible. Thus, self-realizing individuals go hand in hand with self-realizing humanity. Yet there are differences in the ways that Herder, Goethe, Schiller, Kant, Fichte, Hegel, Schelling, Humboldt, and Schleiermacher – the main architects of modern Bildung theory – conceptualize Bildung, in the period 1770–1830, comprising but also relying differently on enlightenment, idealism, neohumanism, and romanticism (Klafki, 2001).

Humboldt's version of Bildung is the one theory most commonly referred to (Brinkmann, 2019; Miller, 2020; Nordenbo, 2002). Here Bildung is conceptualized as an endless process of self-development *through* confrontation with and appropriation of the world, as a certain *interplay* between *the self* and *the world* in which the individual elevates him- or herself beyond the "existing stage of culture" (Masschelein & Ricken, 2005). This transformative interplay is inconclusive, open, and teleologically indeterminate; it is a task the individual gives to him- or herself. At the same time, Humboldt stresses that Bildung should strive for the "highest and most proportional" development of human powers through "the most general, most animated, and most unrestrained interplay" (Brinkmann, 2019). Further, he stresses that Bildung should "grasp as much of the world as possible," and the world for Humboldt is seen as "every conceivable diversity" (Brinkmann, 2019). Thus, modern Bildung is a journey in which one leaves one's home (the known and familiar) to become alienated through contact with the foreign (the unknown and strange), but by appropriating the foreign and thus allowing it to become a part of oneself, one can return to oneself as a new self with a broader horizon, having internalized and made oneself at home with what was initially foreign (Brinkmann, 2019; Varkøy, 2010). According to Humboldt, the Bildung relationship between the self and the world is primarily structured through language. Learning new languages means appropriating a new world view and new ways of accessing the world, but also a new understanding of oneself. Bildung is therefore related to the confrontation of foreign cultures that open up new ways of thinking and feeling. Thus, it is the otherness of the other that enables a formative interplay, and it is only in the medium of language that an understanding of otherness and self-understanding can take place (Brinkmann, 2019). Humboldt stresses that the self should confront as many different cultures and human experiences as possible, incorporating the "whole richness of human culture," and schools should therefore aim at the most general and freest development of the human being through exploring the "idea of humanity" through engagement with the diversity of cultures (Miller, 2020).

According to Luhmann (2006, p. 205), modern Bildung thinking was a response to the situation that occurred after the introduction of printed books, where the idea of one fixed definition of humankind was undermined. Propelled by printing, so many versions of the ideal human being were circulating that none of them could really convince. Yet, as has been demonstrated, this motive was already the background for Pico's radically open "theory of man." With the printing press, this motive becomes more forceful, but matched by Bildung thinkers by comprehensive thoughts like the idea of humanity and the diversity of cultures, as seen in Humboldt's theory of Bildung (Tække & Paulsen, 2021). While Pico responded to the political-theological conditions of the city-states, the modern Bildung thinkers responded to the expanding world (known through printing media, new

communication and travel technologies, colonization, and the exoticization of the foreign), *and* the emerging nation-building and nation-states like Prussia, with new self-confidence, situated in the world as being the most central and best exemplar of humankind since ancient times. Thus, modern Bildung theory placed an emphasis on collective terms like "folk," "nation," "culture," "mankind," "humanity," "history," "language," and "tradition" – signifying that the individual is part of a larger context that makes individual Bildung possible in the first place.

Modern Bildung is linked to the Enlightenment idea that all human beings are born equal, with the capacity of Bildung. Thus, Bildung was part of an emancipative enlightenment project. Accordingly, Kant defines enlightenment as "man's emergence from his self-imposed immaturity" and immaturity as "the inability to use one's understanding without guidance from another" (Kant, 2013). Kant also suggested that the ability to think freely and for oneself is the product of Bildung (Paulsen & Tække, 2019). Kant says, furthermore, that "children ought to be educated […] in a manner which is adapted to the idea of humanity and the whole destiny of man" (Kant, 2013). Thus, the Bildung concept also implied a linear progress thinking (toward an "end of history") that came to signify and incarnate the idea of becoming masters of the world. It was possible to sit in Berlin, reading books and newspapers about one's progress and what was happening all over the world, and as Humboldt suggests, internalize and transform all this into one's own thought and self- and world understanding, theorizing, and comprehending the whole world as one's own (Miller, 2020).

Postmodern becoming, electronic and digital media

In postmodern thinking, the grand narrative of emancipation, humanity, and Bildung is questioned (Lyotard, 1979). This questioning is made "from within": instead of one meta-narrative, local narratives are preferred; instead of one discourse, many language games. Instead of Holocaust and rationalization, then pluralization and multiculturalism. Instead of one general Bildung process, then a multitude of becoming. Instead of self-identity-making, then becoming-other. Instead of the vertical logic of polis (paideia), the horizontal logic of imperium (humanitas) or the progressive logic of the Enlightenment (Bildung), then the Vulcanic logic of rhizomatic events (becoming).

According to the postmodern critique of modernity, the idea that everyone should live up to one and the same ideal (the rational and independent human being) is violent and destructive (Bauman, 1991). Instead of such essentialism (Caputo, 2000), the postmodern want to treat the question of what it means to be a human as radically open. The problem with paideia, humanitas, and Bildung, so far, has been that they de facto end up with a norm of humanness and in doing so exclude or violate those who do not live up to this norm. Thereby, the ideals degenerate into socialization, inserting newcomers

into a pre-existing order, limiting what it means to be human (Biesta, 2006, pp. 6–8). Postmodernism therefore criticizes the worldview that underlies the emancipatory language of education, which makes rational mastery of the social and natural world its end point (Biesta, 2006, p. 15). Thus, Bildung, from a postmodern perspective, valorizes identity, totality, and homogeneity (Masschelein & Ricken, 2005). As an alternative, postmodern thoughts point toward diverse processes of becoming, valorizing difference, decentralization, and acceptance of one's own incompleteness, interdependence, and entanglement with others, putting emphasis on processes of *de*-territorialization, *de*-construction, *de*-evaluation, *de*-marginalization, and so forth. Bildung thinkers are thus accused of promoting a too subjectivistic and individualistic account of human beings, based on the idea of the autonomous modern subject, as a self-determined center of all activities (Brinkmann, 2019). In contrast to such logocentric and Eurocentric ideas that have marginalized many potential vital aspects of human beings and life, such as embodiment and entanglement with others, postmodern thinkers advocate de-centered and pluralistic thinking which, instead of valorizing "monarchistically" guided self-images, puts forward the idea of a pluralized and de-centered self and diverse processes of subjectification, where becoming is not a matter of appropriating and colonizing others, nor different parts of oneself, under the guise of an identifying reason. Instead, emphasis is put on breaks, irritations, affects, displacements, and the like. It is acknowledged that the relationship of the subject to itself takes place within social assemblages and embodiment (Brinkmann, 2019). Yet this has also led to a new re-conceptualization of Bildung in postmodern times (Løvlie, 2003). Eckberg and Schwieler (2020), for instance, suggest a concept of "evolving Bildung," understood as a *constant becoming*, unfinished and futural, and as a step back and out of modern calculative enframing[5] with the goal of letting otherness come into being, in all its endless plurality.

While postmodern thinkers praise becoming as an open, heterogenic, and unpredictable event (Caputo, 2013, 2018) and also point to the pedagogical potential of irregular nomadic and transversal spaces (Roy, 2003), the real implication of the delegitimation of the grand narrative of Enlightenment and Bildung seems to be that school education converts into marketplaces of learning. In his book *The Postmodern Condition*, Lyotard envisioned this (Lyotard, 1979, pp. 47–52). According to Lyotard, the new educational criterion in postmodern societies will be performativity. Education will then have to produce two kinds of skills: first, skills that tackle world market competition, and second, skills that fulfill society's own needs. In the context of postmodern delegitimation, the goal will no longer be to educate an elite capable of guiding the nations toward emancipation but to "supply the system with players capable of acceptably fulfilling their roles at the pragmatic posts required by the institutions" (Lyotard, 1979, p. 48). This will disregard experimentation because the latter brings disorder and has little operational value. Conversely, teachers will, when education ceases to be about the realization of the emancipation of human

beings, be replaced by machines without deeper worries. What will matter, in the context of the mercantilization and instrumentalization of knowledge, is: Is it saleable? Is it efficient? Yet, at the same time: If the problem will no longer be to create new knowledge but to use "data banks" and combine existing knowledge, emphasis will also be on connecting what was previously held to be independent. Thus, the ability to make new moves or to change the rules of the game will also be demanded, as in interdisciplinary studies. According to Lyotard, this is different from Humboldt's model of the university: Here each science had its own place. The idea of the interdisciplinary approach is specific to postmodern delegitimation.

So, on the one hand, postmodern *thinking* replaces Bildung with the concept of becoming, as an educational and human ideal that implies the deconstruction of established regimes, orders, and hierarchies. Instead of one arrested language game, the postmodernists advocate an open and free flux of sense-making. Becoming thus means to re-open the ground and revitalize it, ongoingly creating a surplus of way of speaking, thinking, and doing (Roy, 2003). It doesn't want to bind people to master ideals. It wants to make things shatter and live. The distinction between culture and nature is problematized, opening up to more-than-human creatures as marginalized others, anticipating posthuman thinking (Agamben, 2004; Braidotti, 2013). On the other hand, the *postmodern situation* is characterized by the delegitimation of the grand emancipative narrative of Bildung, not substituted by the Event advocated by postmodern thinking but by nihilistic, marked optimization with performativity and efficiency as empty criteria (Postman, 1992).

The media ecology that surrounds postmodern thinking, and to which it responds, contains oral and written language and the printing press, but also electronic media and the appearance of the world society in all its plurality, unequal power relations, marginalization, and globalization, including the two world wars and the Holocaust. It is, in this context, significant that postmodern thinkers like Deleuze and Baudrillard worked out cinematic theories. With the invention of film media, television and the like, *moving pictures*, materialized that images can be more than merely static, paving the way for understanding images we set up for ourselves, more dynamically. Thus, we begin to conceptualize education as a process of endless becoming, not adapted to one and same image but linked to an ongoing displacement of moving images by the very same process.

Part two: Systematic relationships between Bildung and technology

Based on the historical diachronic analysis, I will now systemize four different ways of thinking about Bildung (Tække & Paulsen, 2021). On the one hand, there are vulgar (i.e., common) ideas of Bildung as a process in which one is formed either from outside, or externally, to conform to a pregiven image

(decided by the society), or formed by oneself, internally, to conform to an innate, also pregiven image (and thus actualizing one's own human potentials). On the other hand, reflective (i.e., philosophical) ideas of Bildung are those in which Bildung is understood as a process in which educational institutions or events encourage and challenge one to think critically and reflectively on what image(s)/ideals one could wish to set up for oneself and, at the same time, could desire that everybody else set up for their doings and developments. The crucial point is that here the image is not pregiven, neither from outside (society) nor from inside (the individual). Bildung is a matter of exploring one's assumptions and ways of being in the world, exanimating ungrounded socializations, worldviews, natural habits, egoism, social conformism, and immediate inclinations. It is therefore a process where one is challenged to leave one's home, that which is taken for granted, to attain an attitude of doubt, reflexivity, and homelessness, but with the goal of returning to a truer grounding of one's being in the world (Gadamer, 2013). This critical understanding of Bildung is further developed in postmodern thinking (Hansen et al., 2019; Paulsen, 2021a), focusing on Bildung as an infinitely transcending process in which the aim is to create and experiment with new expressions and ways of being in the world that transcend the existing order. Thus, we can distinguish between two vulgar variants and two reflective variants of Bildung theory:

1 Vulgar Bildung thinking
    a Bildung as external shaping of someone by the society and culture
    b Bildung as internal development of innate potentials of the individual
2 Reflective Bildung thinking
    a Bildung as a critical exploration of different ways of being in the world
    b Bildung as experimental and creative transgression of existing order

In relation to the first two variants, the main point that I put forward in what follows is that neither of these pay enough heed to the contingent and mediated character of human beings. Rather, they reify human beings and take for granted that individuals ought to conform to certain external or internal standards. With regard to the two reflective variants of Bildung, I argue that both take more account of the open and mediated character of human beings.

Bildung as an external shaping of the individual through technology

A common view of Bildung that modern Bildung theories responded to critically (Koselleck, 2007) understands Bildung as the shaping of an individual to conform to a pregiven normative image of "the good citizen" established by authorities within society. Here, Bildung is seen as something that can be

delivered. In this view, it is possible to distinguish clearly between people with and without Bildung (educated and uneducated people). The specific content of what it means to be an educated individual, a good citizen, can be different from one society to another; the image can be religious or secular, nationalistic or bureaucratic, broad or narrow, consisting of knowledge (canon) or social norms, morality or mere skills. Whatever the specific content is, this view on Bildung gives educators the task of influencing and shaping people in the direction of coming to resemble a predetermined ideal image "X" of the good citizen. Such a view is based on the assumption that some already educated adult people (normally placed at the top of the societal order) have the ability, power, and legitimate right to recognize and decide what it means to be a good citizen. Education is then seen as a causal relation wherein the educator's job is to select efficient means in relation to pregiven goals and to optimize certain effects. The aim of education is to produce good citizens. The educator controls and secures that people achieve the same X or come as close as possible to the ideal. Dewey (1997) calls this "traditional education." The main task is to pass on X (knowledge, skills, etc.). Biesta (2006) calls it a technological expectation of education. Bildung is consequently regarded as coming from "outside" and "above" the maturing individual and consists of shaping the individual in the direction of the X-ideal. Yet there are basic problems with this view on Bildung. It reifies human beings and naturalizes standards that might lead to exclusions, loss of meaning, and the reproduction of an unjust social order. But most importantly, it conflates Bildung with mere socialization and indoctrination and does not pay heed to the contingent, mediated, and open character of human beings. It assumes that it is both possible and legitimate to affect and control people in certain pregiven ways. Taken on its own, this view prioritizes society and the existing order over the individual and newness. In this view of Bildung, media are only seen as controlling remedies for optimizing effects. This also means that societies and educational institutions, which are solely based on such a view of Bildung, tend to either ignore digital media or take advantage of the possibilities of digital media and big data systems for monitoring, controlling, and influencing people's behavior, lives, and all kinds of activities – both in and outside schools (Tække & Paulsen, 2021). Thus, the relationship between Bildung and technology is viewed as a one-way relationship in which technology is understood and used by the society to shape the behavior, capacities, and lives of its citizens.

Bildung as technologically facilitated internal self-development

In opposition to the external understanding of Bildung is an internal understanding (Beck et al., 2014). Bildung is here understood as the self-development of inner potentials. The educational task is to secure and facilitate the individual's free self-development of his or her own innate potentials. The task is not, as in the external understanding of Bildung, to have certain

effects on people, but to create a protective, safe, meaningful, and facilitating environment for the free self-development of each individual. Through this, it is the goal that each individual become able to unfold and actualize human potentials and develop a true and sound individual character. The educator's job is to cultivate and "fertilise the soil" that makes it possible for each individual to grow and unfold, without being distorted and alienated by the society in which they grow up. Thus, Bildung, in this view, is regarded as free and personal self-development coming from "inside." The role of schooling is to protect the individual from the society (and its distracting ideas and images) and thereby to be a "free space" for unspoiled self-development. In this space, it is the task of educators to create a good environment for each individual's self-development through activities like plays, games, projects, and quests. The assumption is that each one, within him- or herself, possesses talents and abilities that can grow, unfold, and become actualized if the individual is cared for, protected, and placed in the right environment. Dewey (1997) calls this the progressive model of education. Many of the articulations of Bildung as self-development, described above in the historical analysis of Bildung, come close to the internal understanding of Bildung.

Yet, there are also problems with this view. First, it is assumed that human beings – independently of media and society – are born with only good-natured potentials and function only as advanced organisms or machines (Biesta, 2017). Second, educators are likewise only understood as protectors and facilitators and thus are reduced to instrumental roles. The idea that the school ought only to be a free space, protecting individuals from society, also ignores that the school and its social activities will always be part of a given society. The internal view therefore naturalizes the individual, demonizes the society, and idealizes true education. In this view, Bildung is, in the end, conflated with hypostasized natural self-development wherein the society and media do not have a constitutional role. Media themselves are only seen as facilitating and protecting instruments in relation to the development of independent potentials. This also comes to the fore with regard to digital media and responses to the current media ecology based on internal understandings of Bildung. Here educators either ignore digital media or begin to use digital tools like learning games and internet platforms to facilitate individual self-development (Tække & Paulsen, 2021). Thus, technology is only seen as part of the environment of the individual, and its Bildung-processes understood as free self-development, not affecting the core of the individual and its potentials – only the possibilities for supporting what is already present as potentials in the individual.

Bildung as a critical exploration of ways of being in a technical world

Classical and modern variants of reflective Bildung theory have been developed as critical alternatives to the external and internal views. Instead of seeing Bildung as shaping the individual *or* as the individual's own internal

self-development, Bildung, in the more elaborated philosophical tradition outlined in the historical analysis, is seen as a critical exploration of our basic human situation and ways of being in the world. Traces of this understanding can be seen in Plato's theory of paideia as a freeing turn toward deeper understanding of the human situation and in Pico's theory of the radical openness of human nature. But first of all, it is an understanding developed by the modern Bildung thinkers who situate Bildung culturally, historically, and politically (Klafki, 2001) and develop an explicit critical response to the vulgarized pedagogical educational literature of the eighteenth century (Koselleck, 2007). Against the external and internal view of Bildung, they hold that Bildung is hereby reduced to either (a) socialization and indoctrination (the human being as a tabula rasa who must be shaped in the best way for society) and/or (b) actualization (man as a seed who just needs good growth conditions). Instead, the reflective Bildung thinkers propose that Bildung should be understood as the development of critical consciousness that also reflects on the social and historical context that makes this development possible. Bildung, in this critical variant, suggests that people should be encouraged, supported, and challenged to (1) think and act critically and reflectively by themselves, (2) think and act from the point of view of humanity as such, and (3) consciously think and act historically and contextually. The educational task is, then, to encourage and challenge people to relate critically to their ways of being in the world. Thus, the function of the school is not only to influence individuals, neither to protect them from society, but to support their critical engagement in the world. Bildung is therefore about critically exploring one's ways of being in the world and how one relates to oneself, others, and the world as such. The task of educators is to confront people with challenging otherness (other ways of being and thinking that make what one takes for granted questionable). Bildung is, accordingly, about becoming critically conscious about how we are present in the world, what assumptions we rely on about a good life, where these assumptions come from, and what consequences they have (Paulsen & Tække, 2019). Biesta (2017) calls this a world-oriented view. The assumption behind this Bildung project is that such critical development is possible and needed (Gustavsson, 2017). Simply put, no one is perfect or lives a perfect life; all of us can benefit from being challenged on our basic beliefs. Yet the point is not that our beliefs are necessarily false, but that they should be maintained only if they can resist being challenged, and furthermore that such challenges are likely to trigger further critical self-reflexive development (Straume, 2013) in the direction of more comprehensive worldviews and self-understandings.

Klafki's theory of general Bildung (Klafki, 2001; Sjöström & Eilks, 2020) exemplifies this kind of critical exploration of being-in-the-world. The most significant idea of Klafki is that students in schools should be challenged to analyze epochal key problems (like environmental issues). These problems should be designed in such a way that they are relevant for all human beings and therefore

also relevant for the students – that is, both motivating and student-relevant, and also link the students to something broader than themselves. The students should also, according to Klafki, be challenged to discuss concrete and local solutions to the epochal key problems with regard to whether they will benefit few human beings but harm others, and thus not be to the benefit of humanity as such. By being challenged to work with epochal key problems from the perspective of humanity as such, the students are encouraged and supported to begin to think and act critically from a general humanistic perspective while at the same time integrating this with the perspective of their own life world, which becomes "lifted up" to the level of humanity, according to Klafki.[6]

A problem with the critical variant of reflective Bildung is, however, that it is too intellectualistic, putting much emphasis on argumentation and thought reflection without necessarily making it possible to create new and better alternatives. Likewise, it puts much emphasis on negative aspects, critique, and skepticism, challenging the students more than helping them to create and make new things. One could even accuse the critical and modern variant of Bildung for valorizing a "hidden curriculum" based on a certain pre-given image of the good citizen – the critical and reflective man – to which the school tries to adjust the students, making the critical variant close to the external understanding of Bildung. In a similar manner, one could argue that the critical variant relies on a philosophical anthropology in which each human – like in the internal variant – is seen as having a rational potential that is waiting to be actualized. Yet, with regard to media, society, and human beings, the critical Bildung theory is a more elaborated response to the contingency of the modern world and the complexity and unfixed capacity opened up successively by new media. Instead of following the idea of adapting students to fixed ideals or uncritically facilitating their own self-development, the critical Bildung understanding advocates for an ongoing critical examination of our mediated being in the world. This also includes new digital media and the current media ecology, which is responded to critically by this view of Bildung by, for instance, seeing it as an epochal key problem, implying that students should analyze and discuss how digital media can be used locally to the benefit of humanity, but also how digital practices and ways of being-digital-in-the-world that do more harm than good can be countered or modified into something better. But also, this view of Bildung makes it a task of the educators to reflect on an experiment with how digital media can be used to prompt polyphonic participation in the classroom and also confront the students with Bildung-relevant otherness through the internet, for example by challenging the students to communicate with poets, other students, and many others from around the world, with different perspectives than those of the students (Tække & Paulsen, 2021). Thus, the relationship between technology and Bildung, in this view of Bildung, goes both ways: On the one hand, it implies a critical exploration of technical ways of being-in-the-world but on the other hand also conscious appropriation of technology to challenge students with technically mediated otherness.

Bildung as an experimental and pluralistic transgression of existing order through technologies

Postmodern thinking senses that modern Bildung thinking comes too close to both the external and the internal understanding of Bildung (Biesta, 2006; Løvlie, 2003; Lyotard, 1979). As a response, a more open way of thinking about Bildung, humanity, and society has been proposed by postmodern thinking (Brinkmann, 2019; Eckberg & Schwieler, 2020; Masschelein & Ricken, 2005; Paulsen, 2021a; Straume, 2021). Here Bildung is seen as a becoming that never comes to an end, not even in principle or teleologically speaking. This is because Bildung is understood, in this view, as a pluralistic transgression, thus negating any finality and linearity. While critical Bildung theory emphasizes reflection, understanding, and argumentation, the postmodern understanding of Bildung emphasizes creativity, sensitivity, and experiments (Paulsen, 2021a; Roy, 2003). Yet it is also critical against the prevailing order and trying to bring out new images of thought and practice (Hansen et. al., 2019). Thus, the educational task for the "postmodern educator" is to support experiments through connecting differences that might prove to be productive, resulting in new and different ways of perceiving and creating (Roy, 2003). The goal is to find out which differences can resonate with each other and turn out to create something new and valuable from which other differences can spring (Paulsen, 2021c). The educator is a sorcerer who experiments with getting things to happen in the encounters between powerful beings and materials, which can be capable of more than they are capable of separately (Braidotti, 2011, 2013; Deleuze, 1994; Deleuze & Guattari, 2000; Roy, 2003). In this view, Bildung is identical to becoming capable of thinking, sensing, and creating in new and different ways that rhizomatically surpass the world, society, and oneself in their current state. Thus, the school is seen as a place in which the world ought to be opened up and become something other than what it currently is (Deleuze & Guattari, 2000; Lyotard, 1979; Roy, 2003). When it comes to media and society, the postmodern Bildung theory is the most media-elaborated Bildung theory because it reflects throughout on the contingency and capacity that new media open up in relation to the societies that develop them and are transformed by using them (Bryant, 2014; Deleuze, 1994). Media are seen as constitutive in developing new productive educational spaces – that is, capacities for creating new ways of thinking, perceiving, and acting (Latour, 1999). This is also reflected in the stance toward digital media that postmodern Bildung theories take (Tække & Paulsen, 2021). Thus, digital media are seen as part of a new, changed media ecology with unknown capacities, for better or worse, which needs to be explored experimentally to find out how alternative ways of acting, thinking, and perceiving can be developed from, and also alter, this media ecology in ways that might re-create human beings and the earth in directions from which can spring more life. The connectivity

that digital media offer is activated to this purpose. But on the other hand, postmodern Bildung pays heed, for the same reasons, to how we become different beings when we are mixed with new technologies, and how new powers such as big data cyborgs (Paulsen & Tække, 2019) arise and take control of the media ecology and therefore demand the creation of new thinking and counter-movements. Thus, postmodern Bildung theory tends to see the relationship between technology and Bildung as taking place as hybrid co-events and becomings in a Heraclitan media ecology characterized by arising powers, but also new cracks and undiscovered capacities.

Conclusion

I have tried to demonstrate that Bildung historically and systematically is a heterogeneous concept with many meanings, due to the fact that it is part of a rich educational and philosophical tradition that is still active in postmodern thinking and which has threads that go all the way back to ancient times. I have also tried to demonstrate that Bildung theories, both historically and systematically, relate differently to technology. The upshot is, in my view, that the tradition of Bildung is a rich reservoir of resources, if one wants to think and experiment with (and against) technology in educational contexts, both formal and informal, in the digital age we live in today. The historical analysis shows that Bildung and education have always been developed out of and respond to specific media ecologies. If we want to think through Bildung and education today, we must also think through the media ecology that includes digital media and how Bildung can be rethought in this environment, to take advantage of its new capacities for connectivity but also to counter the new problems (e.g., big data machines) we face in the present world. The systematic analysis shows that not all kinds of Bildung would be suited for this task. We must be aware that Bildung is not necessarily a good thing and not an unambiguous term. Some proponents of Bildung are proponents of something that might turn out to be the opposite of what we wish for.

Notes

1. The first part of the chapter, the analysis of historical relationships between Bildung and technology, is based on a text (Paulsen, 2021a) in which I have unfolded a critique of Western educational thinking. More details are to be found here. The second part of the chapter, and also what I will say about media and technology as such, including the concept of media ecologies, draws on a book (Tække & Paulsen, 2021) I have recently published that goes deeply into the concepts of technology and media, which is not the aim here, where it is only a matter of application. Yet in neither of the two publications is the link between Bildung and technology elaborated as it is here.
2. This does not imply that Plato asks us not to relate concepts to each other to reach deeper understanding. On the contrary, the point is that such conceptual relations will only cast out an incomplete net of understanding that is bound to be just one

linguistic interpretation of goodness among others, more or less close to (a real intuition of) goodness as such. Thus, we are doomed to endless interpretations of the good and deconstructions of these, as postmodern hermeneutics would say, but in the end, this only gives meaning if it relies on something being good as such, which in itself is not deconstructable (cf. Caputo, 2018).

3. Harold Innis (1986) has argued that Socrates was the last great product and exponent of the oral tradition and that Greek culture from Plato and onward became dominated by writing, to the disadvantage of the richness of the oral culture that culminated with the great tragedies. Eric A. Havelock (1982) has argued that Plato represents a shift from oral to written language, that his theory of forms was impossible in prior oral culture, and that there is an absolute difference between the meter of Homer, where parts are only associatively connected, and the coherent argument of The Republic by Plato. Walter Ong (1982) has worked further with the analysis of Ancient Greek orality and writing, arguing that the shift implied a change from a world of sounds to a world of sight. This also resembles the Nietzschean analysis of the (birth and) decline of the tragedy, simply put, as a movement away from Dionysian power being dominant, killed finally by Socrates and Plato, with their rational way of thinking (Nietzsche, 1968). But while these arguments might have some validity, they exaggerate a more gradual and complex transition, in my view.
4. The interrelations between the neoplatonic thinkers are too manifold to be accounted for here. It should be noted, however, that Cusanus, for instance, read the works of Eckhardt and developed his own concept of the human being as a *deus secundus*. Yet, on the other hand, the neoplatonic thinkers drew on manifold resources (see Cassirer, 1963).
5. Gestell, articulated with Heidegger (1954) and his critique of technology and technical understanding, such as, for example, education developed into a structure of systematic improvement and bureaucratization.
6. In Paulsen (2021b), I have discussed Klafki's theory of Bildung critically from the perspective of the Anthropocene.

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Chapter 2

Bildung in a digital world

The social construction of future in education

Michael Kerres

Introduction

The discussion about digital education refers to what should be taught and learned to prepare for requirements of the digital age and which competencies seem essential for coping with prospective challenges. These projections are based upon assumptions about the future. However, they hide underlying suppositions and, thus, withdraw them from further debates. This chapter contrasts theories from cultural studies about the "next society" with mostly implicit assumptions underlying current competence catalogs for a digital world. In general, they rely on the idea of technology determining society's development and hide design options in negotiating the future of the – most amorphous – digital technology. We introduce Bildung's concept *in a digital world* that has emerged in the public discussion in Germany and describe how *Bildung* can be interpreted as a teleological concept that relies on generic and domain-specific competencies necessary for building the digital future.

How can we frame the discussion about digitization in education? It seems obvious that digitization is a significant trend for the educational system and many projects attempt to demonstrate its potentials. The theoretical positioning of this discussion, however, has been neglected. In the following, I refer to the German concept of Bildung, which seems to provide a promising backdrop to frame the current discussion. This chapter asks how Bildung's traditional concept can be related to the digital world's affordances: Will we need new or additional competencies, or will traditional qualifications be transformed? It analyzes current positions in the German-speaking and European context. It critically points out how these positions try to impose specific visions of the future without offering means to discuss the underlying assumptions about our society's future. Finally, this chapter aims to position and further the concept of Bildung in a digital world to provide guidelines for future discussions and the development of coherent curricula.

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Effects of digital technology

The discourse on "the digital" in education in recent decades has hardly changed. The various technologies that receive public attention may change, but their general interpretation follows a similar pattern: On the one hand, some proponents strongly associate digitization with many positive attributes. They speak of educational innovations or even revolutions, superior learning outcomes, and urge a more intensive examination of these possibilities to utilize digitization opportunities. On the other hand, a different position generally fears a decrease in educational standards and foresees a wide array of negative effects when learning with digital technology. Its proponents refer to insufficient physical activity during long periods of computer use and the associated risk of addiction. For them, the early and extensive use of computers in kindergartens and schools seems highly problematic. In this context, reference is often made to brain research, which seems to prove the negative effects of screen and computer use. Much of the international research on *Educational Technology* is dedicated to this controversy. The typical study follows a quasi-experimental research design and compares learning with digital media with a traditional teaching approach. Since the first works by Kulik, Kulik, and Cohen (1980), many meta-analyses have been published. Based on a large number of aggregated individual studies, they show the comparatively small effects of digital media on learning outcomes: The research does not confirm the hypothesis that learning with digital media leads to significantly higher or lower learning outcomes (Tamim et al., 2011).

Since the beginning of this research, the question has been raised to what extent such comparative studies are meaningful (Clark, 1983; Salomon & Clark, 1977): What does "traditional teaching" actually mean? Can this label be used to sufficiently define a control group? Are e-learning, e-books, virtual classrooms, augmented reality, or Massive Open Online Courses (MOOCs) really *treatments* – or just the *wrapping* for a somehow (to be further clarified) decisive ingredient (Bernard, Borokhovski, Schmid, & Tamim, 2018; Bernard, Borokhovski, Schmid, Tamim, & Abrami, 2014)? In these studies, the effects of digital media on learning are typically are attributed to the technology itself, the hardware, or software. They are based on the presumption that it is the technology alone that influences learning outcomes, not the instructional concept, not the quality of the learner's interaction with a learning application, not the appropriateness of the instructional concept for the instructional objectives or other characteristics of the field discussed as conditions for success in instructional design and media didactics. These studies react to the debate about the pros and cons of educational technology and try to contribute to the public debate. On the one hand, the research does not substantially support either the supportive or the contradicting position. On the other hand, the design of these studies has proved to be problematic and, thus, meta-analyses based on these studies are of only limited use. In this

respect, one may not agree with either of the two positions since both assume an immediate effect on learning technology.

Instructional design discusses the more fundamental question of what effects can be expected from learning with media: Are media (such as "book," "television," or "Internet") *mere vehicles which* – if correctly selected and applied – do *not* have an impact on learning by themselves (Clark, 1994)? Or does the instructional design of a medium determine its effectiveness (Kozma, 1991)? Salomon (1972) refers to the *supplantation* of cognitive processes by media that can be made responsible for some effects. Does a medium generate reality through attributions by the recipients (Schmidt, 1996, 2003) or in the way a medium is used (via gratifications, cf. Lin, 1996)? Do media effects already occur with certain verbal connotations, explanatory patterns, or metaphors in the rhetoric about the medium (Kerres, 2003, 2017)? Or are effects of a medium already inscribed within the medium: Does the medium infect the message (cf. Siever, Schlobinski, & Runkehl, 2009)? For each of these positions, references can be found in media sociology, communication studies, or media pedagogy. However, there is hardly any justification for assuming a direct effect of certain technology on learning per se.

If we broaden the discussion framework, we can state that media do have effects by creating channels of communication and defining who can communicate with whom, how, and what quality; they impact communication situations. The development of society can be described along the epochs in which different media dominate – in the transitions from tribal society (based on orality) to ancient society (with writing for cultural memory) to modern society (with the spread of printing) and global communication (via electronic and digital media); each epoch is undergoing upheavals and power shifts (Baecker, 2017).

Heavy changes associated with the digital epoch are countered by the *indifference* with which the educational system has been reacting to digital technology. So far, digital media have only had minimal impact on instructional practices and teachers' and learners' behavior. Digital media can be used in concepts of a project- and problem-oriented learning and can enrich formats of direct instruction. The sheer availability of technology in classrooms hardly brings about notable changes in education. Confronted with uncertainties, teachers revert to well-established habits when coping with the new situation: The data projector in the lecture hall has probably been so successful because it supports routines for presenting and direct instruction developed for decades. It seems plausible to assume that teachers rely on heavily overlearned action routines when confronted with new options. Behavioral patterns built up over the decade are applied to digital tools, and it requires systemic approaches to school development to achieve reliable changes in actors' practices (Kerres & Waffner, 2019).

It has been the decisive merit of Paul Heimann (1976) to distinguish the decision for an instructional *method* and the choice of a delivery *medium* as

separate fields of instructional planning. Although decisions on instructional methods and delivery media can be interdependent (i.e., the choice of an instructional method has implications for the choice of media), they are to be understood as independent: Project-based learning can be implemented with printed materials, an e-book, or via the Internet. The choice of media does not have a fundamental influence on the method of project-based learning. Nevertheless, one should choose precisely the medium that best suits the teaching objective, the instructional method, and other instructional field requirements.

In teacher training, we are often confronted with the assumption that digital technology *will* change the way schools operate or that schools *have to* change to be prepared for the digital age. This is often associated with the assumption that the use of digital technology will (automatically) require new forms of teaching, for example, that the role of teachers will change from that of educators to that of coaches, that in the future, students will learn in a self-directed way instead of being taught and supervised, etc. The appellative character is striking: On the one hand, the necessity to strive for school reforms is justified on the backdrop of the digital society, and on the other hand, it is assumed that digital technology itself will cause these changes in schools.

All these discussions center around the question of whether and how technology impacts our activities. It seems feasible to suppose that in the context of education, digital technology can at the same time be effective *and* ineffective. For instructional design, it seems important to understand the narrow line between these two sides: The print book as a digital product delivered on an e-book reader does little to change my reading experience, even though it has several advantages and disadvantages that make me sometimes prefer a printed book, sometimes a digital product. At the same time, the availability of digital books is changing the entire production process – and ultimately possibly the importance of the book in a culture. Strong effects of the digital, as outlined by Baecker (2007, 2018) with reference to a "next society," can be interpreted as epochal. In contrast, weak effects can be expected in the short term, like in education's daily routines.

Design options of the digital era

It has become clear that the debate about the effects of the digital and the comparative studies both assume that technology itself would change learning and the quality of learning. Knowledge of the technology would have direct consequences, for example, regarding the competencies to be acquired. In contrast, a socio-constructivist position sees the effects of the digital as the result of social negotiation processes that produce realities. They are based on the individual construction of meanings when confronted with technology. Technology opens up different routes to how its use is socially

organized: When the automobile was invented, it was by no means evident that there would one day be road traffic regulations, standardized road signs, driving licenses, and penalty points for wrong driving. Let us, thus, look at the framework provided by the transition to the digital era.

Digital technology operates based on algorithms that describe a finite sequence of steps that can reliably solve a class of problems. The way the individual computer works, controlled by algorithms programmed by humans, seems mostly comprehensible, controllable, and predictable. Yet, at the level of global networked systems, this certainty loses itself. We are increasingly dependent on receiving information and making decisions without verifying the source and quality of such information. According to Baecker (2017), it is no longer just a matter of the *surplus of language references* developed in earlier epochs, the *surplus of symbols of* writing, and the *surplus of criticism* of book printing. In the digital epoch, it will be necessary to cope with the *surplus of control* that arises because computers participate in social communication with their memory. Humans are no longer able to reproduce the individual results of the digital systems' processes interacting in the network based on algorithms (Stalder, 2016). Countability, computability, and controllability of algorithms on which the individual computers are based become unmanageable and unpredictable. The "next society" has to deal with this challenge.

Another example can illustrate the qualitative difference that arises from the transition of the individual computer into networked systems. Based on the data collected on the Internet, by observing online behavior, I might receive recommendations on books, music, or videos that might be of interest to me and also for sports activities or nutrition. An individual might experience this information as supportive and adding control to his own life. At the social level, however, this technology eventually will decrease the control of humans.

The traditional idea of education aiming for autonomy and development seems to be reaching its limits in the digital epoch. "Digital sovereignty," as demanded by the Association of the Bavarian Economy[1] and defined with references to categories of the individual, will probably be challenging to achieve in the "next society." "Digital sovereignty" rests on the idea of *mastering* digital technology, which seems increasingly difficult to perform on the level of society. It seems that we have come to terms with the idea that mankind will not be able to retain control of digital technology; digital technology is becoming an actor in itself that we interact with whilst developing society. The limitations of traditional media education designed as training courses become apparent: They are necessary but limited. According to Baecker (2018), a view of education captured in the epoch of books underestimates the control surplus of the digital, which will lead to new relationships between social actors.

The rise of the Internet has shown how humankind has opened up spaces for exploration with technology, which, in turn, have motivated

technical developments that again have unlocked new routes for development. Buildings, devices, and other technological artifacts created by humans influence the actions of humans. Speed bumps on the road force drivers to reduce the speed. Seating arrangements in a lecture hall create a communication situation that distinguishes lecturers from listeners. Latour (1996) has described how humans and nonhumans have started to function as equal parts in a network of actors.

The TCP-IP protocol allows data to be exchanged between computers. Unlike circuit-switched communication, the data are divided into packets whose "header" the recipient is entered. Since the beginning of the 1970s, it has been possible to send e-mails (SMTP) or retrieve files (FTP) via this Internet protocol. Tim Berners Lee used this technology in 1990 to make research results from the CERN research center in Switzerland accessible worldwide. Using the HTTP protocol, linked information marked with the HTML page description language could be accessed, which generated the "World Wide Web." Neither the inventors of the IP nor the HTTP protocol was aware of the fact that this technology would one day be used for mapping functions of radio, television, telephony, or – in the course of Web 2.0 – for entirely new applications of social platforms, for advertising, and the sale of goods.

The peculiarity of the digital, and in particular of the Internet and its subsequent technologies (such as smartphones, smart homes, IoT), lies in its amorphous structure. There has probably never been an artifact whose use and the benefit was so little inscribed in the layout of a technology in the history of technology. The radio receives electromagnetic waves, which are translated into auditory information; other (meaningful) variants of use are not possible. It has been developed for exactly this one purpose and is used accordingly. In its rigid arrangement, though possible, the lecture hall also allows only little variation in its use.

The World Wide Web, on the other hand, generates its meaning only from the way it is used, and society has long been struggling with how to interpret this new space: Is the Internet subject to broadcasting law, telecommunications law, or the conditions of publishing? We can understand the Internet as an information medium, as a communication medium of mass or individual communication. The Internet emulates all previous types of media and has produced new media applications – within its use. Digital technology and the Internet are essentially understood as constructivist media, where the users' perception and usage patterns generate an artifact, like social platforms. Digital technology offers spaces for building new realities – created by the users – which open up new opportunities for further developments.

The digital environment can be understood as an interplay of technology-induced developments on the one hand and the handling of the design options by users and society on the other hand. As a result, digital technology can lead to a post-democratic society, based on exploiting user-generated data and striving for far-reaching personal control (West, 2019; Zuboff, 2015). Simultaneously, the interplay of technology and actors can establish a

democratic society in the digital age, based on values of sharing and participation within a culture of "open" knowledge that promotes exchange as an essential mechanism for the development of the Internet. Both directions are discernible worldwide, and it seems, therefore, hardly plausible to claim that the Internet would causally lead to a specific social development.

In the educational sector, these design options can also be unraveled: On the Internet, learning can be implemented as a *regulated process*, optimized by large amounts of data and algorithms ("learning analytics"). The monitoring of learning activities on the net generates large amounts of data that can be used to enable an "intelligent" regulation of learning processes. With access to this data, one can program a regulation mechanism to optimize learning. Whoever possesses this algorithm has a considerable possibility to control and possibly manipulate students. Big data and the Internet are, thus, paving the way for the dream that the founder of behaviorism, B. F. Skinner (1958), once formulated and which is still guiding some of the proponents of Education 4.0 today:

> One can store the knowledge stages achieved for each person utilizing an electronic educational file, one can carry out evaluations, which educational offers lead to which results. Particular mention should also be made of the individualization of learning, which is made possible by digitalization.
>
> (Scheer, 2017, IT summit)[2]

An opposite position is based on the idea of the Enlightenment that education means liberating the person from external regulation. Education, then, is not merely the best possible appropriation of given learning content but aims to develop autonomy and independence. In this tradition, education always should be understood in relation to the world in which we live. It, therefore, has to be made accessible as a "public good." Individual learning relies on participating in cultural knowledge and artifacts objectified on the Internet; in this participation, knowledge emerges and society evolves. Open access to education, articulation, discourse, and participation could justify such an understanding of education in the "next society."

Suppose compulsory schooling and free access to education are important milestones. In that case, it is necessary to find out how education can be implemented as a public good on the Internet: The discussion on "open" educational resources, online courses, and digital ecosystems (Kerres & Heinen, 2015) is part of the global discourse on Open Education:

> Digitalization opens up new possibilities for education: The individual can identify, visualize, and reflect on his learning processes with others. This can lead to new ways of learning that go beyond the hard-wired and algorithmic and make new things visible to the individual.
>
> (cf Kerres, 2018b)

The decisive point is that both visions are conceivable on the background of digital technology (they are not mutually exclusive either), and we can observe that both visions that are receiving attention are taken up differently in various societies. Social reality emerges along with these design options and is to be understood as a social negotiation process. It would be naive to understand this process as a kind of democratic vote in the future. Rather, these processes often occur below the threshold of perception, for example, when we visit and register at websites and disclose personal data or when digital companies evade taxation to countries easily. The digital society emerges with choosing the options for action while using the Internet.

New competencies?

In the following, we will turn to the question of the goals of "education in a digital world" and how these goals can be defined. In this discussion, we are often confronted with a technology-deterministic view that assumes that educational contents can directly be derived from new technology attributes and features. Computers and their applications, mobile devices, and the Internet open up new possibilities. Therefore, mastering computer technology is often interpreted as a key skill, like reading, writing, and arithmetics, that needs to be added to these basic cultural techniques.

As early as 1995, an expert commission in Germany called for a change in curricula:

> The mastery of modern information and communication technologies will become a basal cultural technique whose value is equivalent to reading and writing.[3]

The Aktionsrat Bildung der Vereinigung der Bayrischen Wirtschaft (2018) (Education Action Council of the Association of the Bavarian Economy) calls for *digital sovereignty* as an integral part of school curricula:

> Education in a digitally networked world today extends media competence by the concept of digital sovereignty. In addition to learning the cultural techniques of reading, writing, and arithmetic, the confident handling of digital media is the prerequisite for a systematic anchoring of media education in the actions of each individual.
>
> (p. 18)

In their programmatic claim, these statements aim to strengthen the relevance of digital technology in education in the arena of educational policy. The term *digital sovereignty* serves to highlight the importance of the topic and to justify public investments and other development measures. It raises digital competencies to the level of core skills and emphasizes the necessity for such

investments and the urgent need for action. The argument directly relates to the emergence of the technology: The technology is experienced as *new* and, therefore, seems to require additional and new competencies.

An alternative view understands digitization as a process that *permeates* society. With the transition to a digital era, computers are not a further cultural technology; they permeate all cultural practices, including reading, writing, and calculating. This epochal change is underestimated if the digital is (only) described as something that arises *additionally to* existing social practices and cultural developments. While modern society is characterized by the rationality of its functional subsystems, according to Baecker (2017), the network society functions as an open ecology with a surprising, potentially fleeting order: "The irritable network and its overstraining complexity become figures of thought for our orientation. It is important to understand that digitization essentially permeates and irritates these practices."

The dichotomous construction of a digital versus an analog world remains limited and follows a school line of thought that underestimates the digital transformation scope. Also, the rhetoric of *digital education* suggests a difference to *analog* education, which itself is difficult to substantiate. Arguments along the lines of analog versus digital usually connote *the analog* as something *real* and *the digital* as *something deficient*, for example, when one assumes that *real encounters* can only occur in *real life*, while our lives are already strongly impacted by digital technology. This does not deny the differences in the various constellations of human encounters; however, human relationships have long since been handled utilizing digital tools, for example, when people share their thoughts and status via *social media* and microblogs.

The implications of this *integral* position are far-reaching (Heinen & Kerres, 2017). It does not primarily conceive digitization as an additional topic to add to curricula but instead asks about the implications of digitization for *all* existing subjects and contents, for all levels and institutions. From this, several and other questions arise:

- What is the impact of digital artifacts and technology on knowledge-building and communication?
- Concerning digitization, what are new topics that have to be integrated into the curriculum?
- Starting from a reflection of the use of digital technology in the classroom, we could ask about the implications of digitalization for the individual and society.

Revising the curricula does not automatically exclude addressing the topic in a separate unit or course. However, the acquisition of these competencies cannot be limited to such a course, where these questions are dealt with in isolation, i.e., without any changes to the other subjects.

The fundamental issue is still the ability to judge in dealing with knowledge and acquiring skills to position oneself in a complex and sometimes confusing world of uncertainties. On the one hand, it is necessary to define more precisely what new requirements are essential for dealing with the digital environment. On the other hand, surprisingly similar concepts will be uncovered when we talk about educational goals for "education in the digital world" in the following section.

Defining "future"

At the turn of the century, the OECD launched an international discussion on the renewal of curricula against the background of digitization with the slogan *21st-century skills*. As Dede (2010) pointed out, this discussion focuses on four core competencies that are described as essential for coping with the current and future demands of a digital society: Communication, collaboration, creativity, and criticism. Typically, these competencies are positioned as questioning traditional goals of education centering around subjects. Many social groups, associations, foundations, and public institutions have developed and presented similar position papers, and, thus, there is no lack of references. In addition to national, international, and supranational institutions (Binkley et al., 2012), companies, and trade associations, Trilling and Fadel (2009) have presented competence catalogs that identify competencies necessary for coping with the digital future. The common core of all proposals is that they label *digital literacy* as the major *new* competence (Mishra, Koehler, & Henriksen, 2011) and, consequently, it can be found in all competence catalogs (see also Ilomäki, Paavola, Lakkala, & Kantosalo, 2016).

Statements about the techtechnologicalures and their competence requirements can be understood as attempts to reduce uncertainty in dealing with an uncertain future due to technological development. In their analysis, the repercussions of these future drafts for social discourse can be examined (Grunwald, 2012; Häußling, 2014). These concepts are all based on the assumption that they can predict the future and that the future is determined by technology. When we know about tomorrow's technology, we know what the future will look like because *technology* creates the future.

These papers are always based on explicit assumptions about the future. Yet, when one paper demands *curiosity*, *courage*, or *independence*, it implicitly relies on a different projection of the future than another concept that emphasizes *empathy*, *teamwork*, and *participation*. At the same time, these papers typically *hide* these assumptions and, thus, exclude them from public debate. Competence catalogs are commonly based on assumptions about how technology, work, professions, and society will be in the future. Requirements for learning and teaching are then derived by resorting to this assumed future. However, these competence catalogs do not reveal what the competencies are based on. This is hidden and, thus, eludes social discourse. How

such concepts are developed also remains untold. Voogt et al. (2013) show that these papers often emerge in a context of political negotiations. It is not known which people and institutions contribute to what extent and what their agenda is.

In the German discussion, the papers on *21st-century skills* and other keywords, such as the OECD Learning *Framework 2030*[4] or the competence catalogs of the European Commission on *DigComp*,[5] have attracted comparatively little attention, perhaps because the concept of education has always implied a broader range of curricula and educational goals (but see Petko, Döbeli Honegger, & Prasse, 2018). In this context, the idea of "general education" has a strong tradition and has always positioned education as basically different from vocational training and curricula that shortsightedly follow merely exploitable qualifications to contribute to employability.

Media competence

Differing from this international discussion, in German-speaking countries, the debate has centered around the concept of media competence since the 1970s. While education in schools has heavily relied on books, the importance of radio, television, cinema, and magazines for information and communication has been growing. *Media competence* has taken these media into account. It has aimed to develop a critical position toward media: The ability to understand, produce, and critically reflect on the use of media (Groeben & Hurrelmann, 2002; Moser, Grell, & Niesyto, 2011). In contrast to Baacke's (1973) original intention, media competence has often been reduced to skills in the basic use and application of media since then. In public opinion, media competence is often associated with basic training in the use of computer software and lectures that warn about the dangers of digital media and cyber-bullying in everyday life. Aufenanger (2000) demanded: "These technological and reassuring concepts of media competence must be overcome and should be replaced with the more general aims of education."

In 2009, a report by the German Ministry of Education marked a turning point in the discussion. Published under the title: "Competences in a digitally shaped culture" (*Kompetenzen in einer digital geprägten Kultur. Medienbildung für die Persönlichkeitsentwicklung, für die gesellschaftliche Teilhabe und für die Entwicklung von Ausbildungs- und Erwerbsfähigkeit. Bericht der Expertenkommission des BMBF zur Medienbildung*, 2009), the paper pointed out that media competence can no longer be discussed as a separate topic of education but should rather be discussed relating to a *digitally shaped culture*. Thus, education can be based on four dimensions: (a) access to the knowledge of culture as conveyed by digital media, (b) participation in social discourse by using digital media, (c) developing personality by appropriate use of digital media, and (d) competent use of digital technology in everyday life and work.

In December 2016, the ministers of education of the federal states of Germany jointly published a strategy paper on "Education in a Digital World,"[6] which emphasized these considerations and initiated a process of revising educational standards in schools:

> If the educational mandate of schools changes in the "digital world," then media education will no longer be a cross-sectional task for schools, but an integral part of all subjects.

Education in the digital world or education in a digitally shaped culture, first of all, bypasses the linguistic difficulties associated with the wording of digital education. Second, it interprets the underlying competencies not as somehow separate competencies but as prerequisites to living in a world shaped by digital technology. As digitalization permeates life, learning, and work, all our experiences are essentially based on and influenced by digital media. Our participation in culture and our communication with others are based on media. Our view of ourselves also relies on artifacts (e.g., on social platforms) that we create while operating with digital tools.

This view is in line with an understanding of education as a reflected relation of a person to things, to others, and themselves: Education means setting oneself in relation to the world (e.g., Marotzki, 1990; Meder, 2007). Following a structural theory of education, Bildung can be related to the experience of uncertainty and indeterminacy in our society (Jörissen & Marotzki, 2009, p. 102). Bildung relies on experiences that change a person and the person's view of the world and themselves: "Educational processes are to be understood as higher-level learning processes where not only new knowledge is acquired, but also the relationship of the subject to him- or herself and the world undergoes a fundamental transformation" (Koller, 2016, 149). Such an understanding of education as transformation "is less about contents and subjects of education but more about structural features of the relationship of the person" (Marotzki & Jörissen, 2008, 103). This argument is in line with a pragmatic theory of education: John Dewey related education to the inquiry process and meaningful experiences that *irritate* a person (cf. Michael Kerres & de Witt, 2004). It is also in line with a view found in cultural studies, characterizing the digital epoch by interconnectedness, ambivalence, and indeterminacy (Stalder, 2016). These are attributes that do not call for *skills training* in the use of technology, but for *basic education* or Bildung's concept, which has a long tradition in the German-speaking world. Bildung can be understood as a framework to define the aims of education and as a backdrop against which competencies can be derived. It provides an alternative to the attempt to derive competencies from an assumed future defined by certain digital technologies. Without a doubt, these technologies do shape our future, but they cannot provide constructive framework competencies can be derived from.

In conclusion, we can summarize that a fundamental renewal of education's basic concepts does not seem necessary to understand education in the digital era. We can draw on Bildung's concept, which provides a framework for defining goals for education in the digital world. The competencies that are prerequisites for such *education in the digital world* can then be related to the teleological concept of *Bildung*.

Competencies for "education in the digital world"

Education (in the digital world) is more than the sum of competencies acquired in dealing with a culture shaped by digital media. Yet, at the same time, it requires several competencies to be able to participate in designing the future digital world. Let us go back to the original catalogs of media competence by Baacke (1973) and Groeben and Hurrelmann (2002), which were developed in the context of the individual being confronted with mass media. If we relate these to the current affordances of digitalization, seven fields of competence for education in the digital world can be reformulated, which relate to knowledge, skills, and attitudes.

In the emerging discussion about post-digital culture, digitization is interpreted as a transition. Looking from an (assumed future) world where digital technology has already been *processed* by society, this discussion looks (back) at the recent discourse in order to understand current debates about the digital and the processes of meaning-making (cf. Jandrić et al., 2018 in the editorial for the new journal "*Postdigital Science and Education*"). Instead of focusing on features of technology, it analyses our discussions about digitalization (Ryberg, Davidsen, & Hodgson, 2018). One analytical method of post-digital research is assuming the *digital* as given and removing it from current argumentations to understand if and how the attribute *digital* adds or changes our view of a certain problem. We can then unravel continuities in our thinking about competencies and find out where the *digital* adds new attributes to our discussion.

For further research, the question remains to what extent competencies are bound to specific domains of knowledge (such as language learning or natural sciences) or prove to be generic (i.e., not linked to knowledge domains). This is important since education has to be designed differently if these competencies are acquired independently from or within knowledge domains. We would assume that some competencies can be transferred across domains, whereas other competencies are more strictly linked to knowledge domains, media technologies, or thematic contexts. For example, the ability to search for information on the Internet and skills to evaluate the quality of information could be interpreted as rather broad competencies relating to many realms. The competent use of statistical software, on the other hand, would refer to a more narrow context and is probably not easily transferable to other knowledge domains.

We do not know if and to what extent these competencies can be considered generic and easily transferable across situations. We have to assume more narrowly defined competencies that relate to a specific technology or situation. Research shows that many competencies are more domain-bound and, thus, less easily transferable than is commonly assumed (Mähler & Stern, 2006; Prenzel, 2010).

Final remarks

We have to acknowledge that all self-observations are bound to uncertainty and, therefore, Baecker (2007, 2018) only tentatively speaks of the *next society*, which can only vaguely be foreseen. Still, we can anticipate an epochal break in the transition from a modern society shaped by books' technology to a networked society (see also Castells, 2004). In this transition, societies have to develop new and different solutions for challenges that previous societies have answered under different terms. The rhetoric of emerging *educational revolutions* and pessimistic diagnoses of *cultural decay* indicate the social search process where new orders and new semantics are set as a response to the surplus meaning of the new medium (see also Allert & Richter, 2017; Wunder, 2018). Both euphoric advocacies and fundamental criticism are based on diagnoses of our times that are difficult to maintain given the ambivalences we are confronted with.

Talking about the *effects* of the digital is utterly effective, albeit in a different way than the opponents suspect: Opponents and proponents alike typically assume that technology can create a particular future (and while articulating this attribution, they contribute to creating exactly this future). In their underlying assumptions about the *effects* of technology, both contradicting positions are similar: People are at the mercy of technology; they can try to accelerate or prevent the coming changes, but the effects of technology define the future. Perhaps in anticipation of an expected *artificial intelligence*, the future is communicated as seemingly inevitable, and the design options of the digital era are concealed. Therefore, it is of utmost importance to reject the rhetoric about *the effects* of the digital and advance an understanding of the digital epoch as a social negotiation process that opens up very different routes for future developments.

As explained, the digital should not be constructed as an additive affordance for educational programs: As a pervasive technology, it permeates our environment and education. New, so-called digital competencies are remarkably difficult to justify. A closer look reveals basic requirements that can be addressed with references to Bildung's long-standing concept and with a return to traditional ideas of general education. Our discussion has also shown that concepts of Bildung *and* competencies are not mutually exclusive. Following the argumentation of Pietraß (2011), it seems productive to further unravel the relationship of Bildung *and* competencies: *Bildung (in the digital*

world) (and not the technology itself) provides the framework for inferring educational goals. The (seven) competencies describe prerequisites contributing to Bildung. It remains to be further explored where we underestimate the digital, for example, when we try to maintain the idea of an individual's *sovereignty* in a digital world, and where we allow ourselves to be deceived by the impact of the digital, which promises us something new. However, following established concepts of Bildung could already be the answer.

Notes

1. Association of the Bavarian Economy e. V.: (2018). Digital sovereignty and education. Münster: Waxmann Verlag.
2. https://www.saarland.de/it-cluster.htm
3. Education Commission NRW (1995). The future of education – the school of the future. Memorandum of the Commission "Future of Education – School of the Future" by the Prime Minister of the State of North Rhine-Westphalia. Neuwied: Luchterhand.
4. http://www.oecd.org/education/2030/learning-framework-2030.htm (accessed 28.03.2019)
5. https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework
6. https://www.kmk.org/fileadmin/Dateien/pdf/PresseUndAktuelles/2016/Bildung_digitale_Welt_ Webversion.pdf

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Chapter 3

Deconstructing the virtues of openness and its contribution to Bildung in the digital age

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Introduction

This contribution critically discusses the prospect of openness for Bildung in the digital age. The wave of openness has challenged certain foundations of education. One central concern is education as a public good with equality at its center. Prima facie, openness claims to boost Bildung as both concepts revolve around the idea of opening education. This chapter examines this nexus by deconstructing the understanding of openness as a unidirectional and monolithic block. This notion – sometimes implicitly – is based on the idea that all initiatives of openness in the context of education contribute to the general aim of open education or the broadening of access to education. An often-ignored fact is that various concepts are subsumed under the term "openness" and are not interwoven but instead loosely coupled.

Moreover, these various efforts for openness focus on very different goals and types of problems, suggesting that openness is adopting the Bildung approach without adequately considering its pedagogical underpinnings. From a research perspective, the extent to which one initiative in the "openness continuum" contributes to another's problem-solving requires critical review. Each initiative, such as Open Educational Resources (OERs) or Open Educational Practices (OEPs), goes hand in hand with a specific constellation of problems that supports different corridors of an opening to a greater or lesser extent. Furthermore, the discussion surrounding openness, which is often politically charged, can be counteracted in scientific discourse by understanding and further analyzing openness and mechanisms of opening in relation to closeness. Determining the added value of openness for Bildung in the digital age requires deliberately refraining from the normativity of the openness movement and the cascading understanding of the different concepts for Open Education. In this way, an alternative perspective is unveiled: Openness understood less as a counter-concept to closeness and more as a mesh of relationships between different initiatives. From this perspective,

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it seems plausible to critically examine each concept independently and assess their respective contributions to Bildung in the digital age.

"Openness" is in vogue; the term can be found in diverse contexts and disciplines, but it refers to very different things. In the educational science discussion, the concept of openness has evolved around several concepts, such as Open Education, Open Pedagogy, OEP, OER, or Open Informational Ecosystems. These terms all have in common that they position openness as a counter-concept to closeness and, in this way, programmatically set openness as a positively connoted target category to be achieved. Moreover, these concepts can all be associated with central discourses in educational science, including the discourse on broadening access to education and opening up educational institutions. Both discourses are linked to the political appeal for educational justice and social participation (for a critical discussion, see Bauer, Bolder, Bremer, Dobischat, & Kutscha, 2014). Education as a project of the Enlightenment has always been connected with the promise of access to education for all. The current discussion can tie in with this line of argumentation. Since the beginnings of computer technology, its protagonists have used this promise – which has remained unfulfilled – to semantically enhance their digital solutions by offering the prospect of education for all, be it via suitable educational products or open learning platforms (see Hof, 2018).

Deimann (2014) refers to the frequently used rhetoric of liberation and criticizes the superficial adoption of the concept of Bildung in connection with "openness" and its political connotations. Nevertheless, the educational science discussion has long recognized the narrow definition of the formula of "Bildung for all," and literature has addressed the complex mechanisms of inclusion and exclusion in Bildung for social participation and the allocation of opportunities through mechanisms of selection in the educational system (and the inheritance of educational opportunities). Perhaps this vague overall picture is one of the reasons why, as Deimann (2018) has criticized, it is difficult for educational theory to become involved in the recent debate on openness in the context of digitalization.

Education can first be classified as a political agenda that addresses specific social concerns about educational justice to overcome (existing or supposed) inequalities or injustices. Paradoxically, these education efforts relate to a system, the function of which is precisely to organize selection and justify the allocation of opportunities in a society based on proven competencies. However, the opening of certain educational pathways always simultaneously implies closure (Lenzen, 2014). Thus, the value of a university degree changes when it is no longer achieved by a few but by the majority of a cohort. With the opening of a previously exclusive educational pathway, the institution's privilege closes. New mechanisms of social regulation of distinction emerge, for example, by establishing private (paid) universities or additional services such as stays abroad or a specific certificate as possibilities for differentiation.

At the same time, there is the idea that the various initiatives of openness culminate in a social movement, the so-called Open Movement:

> The movement toward greater openness represents a change of philosophy, ethos, and government and a set of interrelated and complex changes that transform markets altering the modes of production and consumption, ushering in a new era based on the values of openness: an ethic of sharing and peer-to-peer collaboration enabled through new architectures of participation.
>
> (Peters & Roberts, 2011, p. 1)

> Core business components are relabelled in order to align them to the overall openness movement which is characterised as a political and a social project.
>
> (Peters, 2008)

At least implicitly, it is assumed that the various openness initiatives are all aimed at one goal and fit together like individual blocks to form a building. In this manner, they contribute to the overall goal of opening up education. However, this assumption will be questioned in the following section. Here, it will be argued that the various open initiatives pursue different and individual concerns that have the potential to build on each other but do not necessarily do so. One initiative can thus contribute to the achievements of another initiative, but it may not have to. The assumption of a cascading relationship between the various open initiatives leaves their relationship obscured and makes a more nuanced analysis of their mutual relationships difficult. Therefore, in this section, it is proposed to assume a multidimensional network of different efforts to achieve openness. Thus, it is essential to understand more precisely how the individual initiatives relate to each other, such as whether they stimulate or hamper one another. Knowledge about this mesh, so the hypothesis intends to help classify more precisely the different approaches to an opening according to their respective contributions. This section will also reveal that opening should be understood as a concept instead of a counter-concept of closure.

Dimensions of the opening

One of the first initiatives for openness is located within the context of software production, where the licensing model of "open source" – beyond the traditional, closed licensing variants – revealed itself to be (in certain cases) a viable model for the sustainable development of software in the 1980s. Contrary to earlier assumptions, the release of source codes to the developer community, as in the case of the LINUX operating system, could help open up new ways

of continuing software development in a community. The conditions of this fundamentally successful initiative of an open approach serve as a backdrop for the analysis of initiatives in the educational context labeled "open."

Table 3.1 contains a (nonexhaustive) overview of various strands of discussions on openness with relevance to the educational science field. Concerning the "open movement," these strands can be understood in a hierarchical logic as a cascade of initiatives, in which one initiative contributes to the goals of the

Table 3.1 Current approaches to an opening in the educational science field

Approach	*Goal*	*Authors*
Open culture Open innovation	Culture of sharing in society in organizations, e.g., as part of the innovation process	Powell (2015)
Open education	Widening access to and participation in education	Deimann and Farrow (2013), Peters (2008)
Open university	University that has committed itself to open access (often also as a distance learning university)	Tait (2008)
Open pedagogy	Consistent opening of all pedagogical design dimensions (including lesson planning, teaching, examinations, etc.) through transparency and joint participation of teachers and learners	Hegarty (2015)
Open educational practices	Willingness to share, cooperate, and reflect together with others (teachers and students)	Ehlers (2011, 2013)
Open informational ecosystem	An environment that provides and shares access to materials, e.g., via metadata	Heinen, Kerres, Scharnberg, Blees, and Rittberger (2016)
Open courses	Courses that can be taken by learners free of charge	Downes (2017)
Open educational resources, open textbooks, open courseware	Teaching and learning materials with an open license, e.g., textbooks, course materials, online training	Hilton, Wiley, Stein, and Johnson (2010)
Open content, open access	Materials with an open license, e.g., articles in academic journals	Kuhlen (2013)
Open standards, Open source	Open standards, e.g., Creative Commons software products, the codes of which are freely accessible, editable, and redistributable	Russell (2014)

others. Open Education, for example, would be a superordinate approach aimed at further opening access to education. An Open University and OER would – subordinate to Open Education – support the goals of Open Education. If understood as a cascade, the use of open standards contributes to the implementation of OER, the consistent opening of design dimensions of education practices (in the sense of transparency and participation) contributes to the openness of education, and openness in education contributes to a social culture of sharing.

However, when we look at these initiatives' relationships, alternative arguments to the assumed interrelatedness can be made. The objectives of Open Education can be achieved with OER as well as with Closed Educational Resources. Broad societal access to education can be based on openly licensed teaching-learning materials as well as on materials provided to learners with a closed license. In the case of schools, this dualism has been resolved thus far through agreements with textbook publishers. Even if OER can contribute to opening education, the argument in this section is that the goal of Open Education does not depend on OER. From this perspective, however, it is necessary to evaluate whether and to what extent greater availability of OER actually leads to broader participation in education. For developing countries that may have poor educational infrastructure, OER seems promising as a means of making knowledge more broadly available; this is at least one of the explicitly expressed reasons for some foundations' commitment to OER. At the same time, this free export of Bildung from Western, industrialized countries is also being debated as an 'imperialism of Bildung' (Deimann, 2018). Knowledge is never prepared in a culturally neutral manner but rather always implies the impartment of specific values.

If these positive effects of OER actually occur, or whether OER ultimately only promotes the already well educated (in industrialized countries) to educate themselves further, remains to be examined in more detail (see Kortemeyer, 2013). In research on Massive Open Online Courses (MOOCs), the latter tendency is evident due to the strong selectivity of participation (see Dillahunt, Wang, & Teasley, 2014; Liyanagunawardena, Adams, & Williams, 2013). However, the availability of a resource is not the same as Bildung, and a system of higher education institutions cannot be reduced to their libraries. Moreover, access to Bildung at the societal level is controlled by quite different mechanisms than the mere availability of educational resources (Kupfer, 2011). It can therefore be expected that the license under which a medium for Bildung is provided has little impact on the quality of learning processes or the broader difficulty of opening up and participating in education.

Another perspective addresses the side effects of the open provision of materials on the Internet, which has received little attention in the often positively charged OER discussion. The increasing distribution of such materials, especially for school lessons, can also be seen critically. The established practice of authorizing textbooks for the school sector, which is practiced in Germany, can thereby be undermined (Tröhler & Oelkers, 2005). Fey et al. (2015) and Höhne (2018) point out the implications of this practice: More

and more private and interest-driven providers are making them – often attractively prepared but at the same time tendentious – materials available online for instruction (see also Neumann, 2015). OERs can thus be used as a vehicle for political infiltration and for influencing opinions (e.g., on what at first glance appears to be less political issues, such as "where does our electricity actually come from?"). The extent to which this openly licensed material then leads to an open debate with other positions remains uncertain. Most notably, not all actors have the same opportunities and resources to reach teachers and learners with their OER in the competition for attention. This dynamic demonstrates that teaching and learning materials that are provided free of charge and licensed for subsequent open use do not automatically fulfill the overriding social goals of open Bildung. Simultaneously, it does not seem appropriate to ban such OER from the classroom as a matter of principle just because such attempts to influence exist. However, the ambivalence indicates that the implications of one opening toward an opening on a superordinate level have to be considered in a much more sophisticated way.

Kerres and Heinen (2015) described "Informational Ecosystems" as an essential link between Educational Resources and other levels of opening. Informational Ecosystems refer to an environment in which digital instructional learning materials are made available and can be found and reused in repositories – equipped with metadata – via search engines and portals. Informational Ecosystems can also include opening and closing mechanisms, such as making metadata available and providing information about their mechanisms for evaluating and providing materials. For example, portals for OERs can be found that remain technically closed to their environment, such as by not revealing metadata, thus making networking and exchange with other providers more difficult. Oliver (2015) discussed the significance of the "permeability" of corresponding ecosystems for Open Education. An Open Informational Ecosystem, on the other hand, can contain both open and closed-licensed materials, for example, when it references materials from openly licensed repositories as well as commercial publishing products (See as an example Fig 3.1). Vice versa, the availability of OER does not

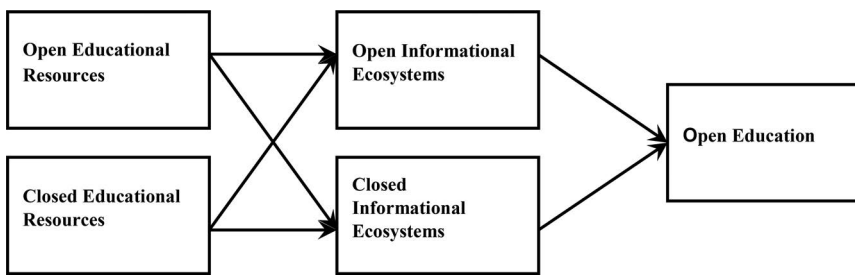


Figure 3.1. On the relation of (some) opening initiatives in education.

automatically lead to an Open Informational Ecosystem. Moreover, an Open Informational Ecosystem that keeps its references and mechanisms open does not automatically contribute to the opening of education. This demonstrates that openness at each level has a function of its own that does not automatically contribute to another initiative's goals at another level.

Actors in the opening of educational resources

In order to understand how individual initiatives to open up education relate to each other, it is beneficial to consider the respective constellation of actors and, for example, to compare the OER initiative with the context of software production. This allows investigation of whether and which obstacles exist and whether and how OER contributes to Open Education and thus to a higher-level goal.

The initiative to license software as open-source came from software producers who were looking for a path to develop their software further. Contrary to the classic software distribution model, the producers who recognized that the release of code could lead to sustainability and possibly also to economic success, for example, by offering consulting services related to the software.

This path is hardly discernible for educational resources so far, meaning their provision does not – yet – open up any new business models through which authors (such as publishers) can refinance themselves.[1] For this reason, little effort is observed on the part of media producers (as in the software industry) to implement the release of teaching and learning materials as OER; instead, they stick to traditional models of media production and marketing.

Other players have become significant in this educational sector, including foundations that want to broaden access to education and state institutions that want to ensure the supply of higher education and schools with digital learning products. They recognize that it will be difficult to successfully integrate the future digital textbook via traditional development, production, and marketing (see Wiley & Gurrell, 2009). From this point of view, alternative models of provision can be expected, for example, when a federal state has a learning environment with educational resources developed or licensed for a specific topic/subject/school type and in this way ensures the provision and further development of the material. In this example, too, the question remains as to how open these media will be licensed, that is, to what extent the producer makes the resources available or can make them available with a Creative Commons (CC) license. For school authorities, schools and teachers, it is crucial that they can access a curated material pool in a legally secure way and make it available to their students in the first place; this also applies to materials that are not necessarily provided with an open license.

In the following step, from a pedagogical perspective, the question arises of what can be accomplished with the materials in everyday pedagogical work. CC licenses offer more possibilities for subsequent use, such as through editing, combining, or republishing on other servers than limited licenses. Consequently, these types of licensing are preferred in educational technology, and the various pedagogical scenarios associated with such an opening of materials have been demonstrated in the literature. Attention has been drawn to the pedagogical implications of such an opening and to the opportunities to design schools and lessons differently with OER (Deimann & Farrow, 2013).

Nevertheless, the question remains as to whether the additional benefits of this far-reaching opening are sufficiently motivating or adequately recognized and who is the driver of this opening. In the case of open source, producers and users have a genuine interest in opening up to continue the sustainable operation and development of software. Further drivers are generally not necessary. Concerning educational resources, often, neither the producer (the teacher/publisher) nor the user (other teachers/learners) can see the additional benefits of this opening up strongly enough for themselves. Thus, the focus shifts to other stakeholders, such as state institutes, school boards, educational institutions, associations, and foundations, that may have a similar interest in the broad availability of OER.

The discourse about openness

The different initiatives for openness previously mentioned, which are discussed and developed in the various discourses of opening, each pursue specific objectives. However, they are not directly interrelated and can hardly be unidirectionally assigned to one overarching social openness goal. When referring to "openness as a movement" (Edwards, 2015; Oliver, 2015; Peter & Deimann, 2013; Schlagwein, Conboy, Feller, Leimeister, & Morgan, 2017), however, an attempt is made to subordinate the various initiatives under a single purpose: "The notion of openness in education stems from core Enlightenment concepts of freedom, equality, democracy and creativity" (Peters, 2008, 11). This raises the question of how the attempt to create such a framework has to be classified and what significance it has (see the critical review of Schulmeister, 2013).

Internationally, a discussion has developed reflecting on the construction of an openness movement. It asks what is meant by referring to a "movement" in the context of the various initiatives of openness. Gourlay (2015) states,

> The movement towards "openness" in education has tended to position itself as inherently democratising, radical, egalitarian and critical of powerful gatekeepers to learning. […] allegedly "radical" claims of the

> "openness" movement in education may in fact serve to reinforce rather than challenge utopic thinking, fantasies of the human, and monolithic social categories, fixity and power, and as such may be seen as indicative of a "heterotopia of desire."

The criticism is that with openness as a movement, a utopia is formulated only vaguely related to its initiatives. According to Funes and Mackness (2018), this discourse on openness may even contribute to a closure:

> this aspirational, utopian narrative – while intending to include and encourage diversity – can lead to exclusion and homogeneity. […] aspirational norms create a buffer that enables people to ignore what actually happens.

Thus, Funes and Mackness (2018) identify social justice as the central telos of the openness movement, which, through the normative charging of the individual initiatives associated with it, can have the opposite effect: "Participants become moral magnets, grouping in the safety of echo chambers and losing the potential for diversity. Norms inside the temple intended to include and foster diversity lead to the opposite." The discussion within the Open Education movement only works if this telos is recognized. Open communication then tends to conflict with the aspirations of a normatively charged movement. Funes and Mackness (2018) refer to the heated discussion between Stephan Downes and David Wiley about "real" openness, in which demands for "right" behavior were made, such as the norm to use certain licenses if one wants to belong to the movement. Farrow (2017) speaks of "openwashing," with which commercial providers also want to present themselves in a positive light. Openness thus loses a sociopolitical claim and can become an advertising formula usable for everything.

Mejias (2013) refers to the double affordance of the online world in which A and non-A can simultaneously occur, mainly because the ambiguity of the character is much higher in the online world due to a lack of context. Jacques Derrida makes it possible to say "to open a space denies the closed spaces that make such an opening possible"[2] or "the opening of a space closes other spaces"[3] (Derrida, 1997, 152f). Likewise, Edwards (2015) notes, "all forms of openness entail forms of closedness, and it is only through certain closings that certain openings become open and vice versa." In his comprehensive critique of the OER Movement, Knox (2013) even explains that the usual arguments can contribute to a further "efficiency orientation" and "economization" of education. Könitz (2018) follows this argumentation and asks whether OER leads to "self-inflicted digital immaturity."[4]

These critics have not questioned central goals, such as opening up access to education more widely or ensuring the freedom of discussion spaces. Their critique does not question objectives such as the broader opening of

access to education or securing the freedom of discussion spaces. It relates solely to the argumentation presented and the construction of a normatively charged openness movement, which may achieve precisely the opposite (see also Mishra, 2017). Funes and Mackness (2018) therefore propose "a research strategy that is more descriptive than normative may offer a richer language for open online education" (2018, p. 12).

Openness as a value?

While openness is mostly valued positively, the closure of knowledge seems to have a negative connotation. The question remains to what extent such a valuation is justified. The opening and closing of knowledge refer to modes of social interaction with knowledge, both of which must always occur in every society (see Kuhlen, 2013). Therefore, authors prefer to see the authorship of their works secured and want to be able to determine their further use. Companies can be dependent on closing off knowledge from their activities, such as in research and development processes, to bring a product to market readiness and commercialize it. Patents, registered designs, and other variants offer the opportunity to restrict access to or the use of knowledge and to limit its exploitation. An author's rights, the possibility of registering patents, and utility models are fundamental components of cultural conventions developed over centuries, all codified in the legal system.

At the same time, society will be interested in the fact that existing knowledge is openly accessible to make it available through the educational system, media, and other ways of participation and thus to secure this knowledge. It is a society's concern to make the state of knowledge available and to convey it to the next generation. Every act of social progress is based on the fact that available knowledge can be and is passed on; only in this way can the educated become proactive and generate new knowledge. Therefore, if certain knowledge were not openly available, society would not be able to generate new knowledge. At the same time, social institutions and organizations would not be able to generate protected knowledge (see features of knowledge ecology according to Kuhlen, 2013), for example, by making an invention or developing a patent. Even the police or the secret service will only be capable of working for society's benefit if it is possible to conceal certain pieces of knowledge.

Possibilities for opening and closing knowledge are much more interdependent than antagonistic. Their interplay can be regarded as an elementary mechanism of social development that requires constant social negotiations. Media theories demonstrate how new paths of the production and distribution of knowledge in society are emerging with media technologies, shifting power constellations in society (Baecker, 2007). With the printing of books, the church's monopoly on knowledge – which encompassed the power to close access to libraries and books and thus to knowledge – experienced a

massive blow. With every new media technology, the question arises as to who has what capabilities to open up versus close knowledge and in what way (see also Martin, 2016). In the transition to every new (media) epoch, actors emerge who seize the new opportunities for knowledge for themselves. A new power constellation evolves in which the new approaches to knowledge production and distribution are redefined.

Nevertheless, the mechanisms of opening and closing in the digital epoch appear more subtle than in the world of books: The library building in the city is recognizable, and it is easy to determine whether one can enter the building or not. A systematology transparently describes the organization of the content of a library. On the other hand, the Internet promises a place where everything is available to everyone, anywhere in the world. However, knowledge is structured, for example, by a company using an algorithm so that the access to information is either open or closed.

In the transition to the digital era, business enterprises have quickly secured access to data and knowledge worldwide through new business models, thus creating entirely new power constellations. Further social debates will be needed to determine which mechanisms for opening and closing knowledge in a digital world will be sufficient (Kerres, 2018a). It is crucial to balance this power constellation in future discourses. Above all, questions arise as to who can use which data under which conditions and how and where taxes for creating economic value with this data should be imposed to finance general social tasks such as Bildung.

Can openness be considered a value like freedom, justice, equality, or solidarity? Strack, Gennerich, and Hopf (2008) have structured personal value systems from a social psychological perspective based on factor-analytical investigations in a value system. They have differentiated these into traditional values, self-determination values, universalistic values, and egocentric values. Interestingly, openness does not appear in these analyses and could instead be assigned to so-called secondary values such as honesty, reliability, sincerity, and punctuality (see Rokeach, 2008).

According to Carl Rogers (1961), in the person-centered approach, it is openness respectively congruence (in addition to empathy and unconditional appreciation) that counts as one of three basic attitudes for a positive relationship between people. This concerns the ability to express what one feels with respect to the agreement of what is said with what is felt. This attitude helps one harmonize with one's feelings and is a prerequisite for empathy or the ability to recognize others' feelings. The opening would here be classified as a contribution to mental health. Apart from a counseling or therapy situation, however, it appears inappropriate to demand openness in principle. To live in harmony with other people in a society, it is also necessary to be able to practice non-openness to adhere to certain culturally established rules when articulating emotions (Ekman et al. 1987). Thus, it remains challenging to advocate openness as an ethical-normative value per se.

Conclusion

If one follows these considerations, the various initiatives of an opening are understood as specific solutions to different problems in a multidimensional structure. They appear to be "loosely coupled" (see Orton & Weick, 1990) rather than systematically interconnected: Each initiative aims to solve a specific problem. The extent to which each initiative contributes to the solution of another initiative's problem must be examined more closely. Each initiative is accompanied by different constellations that support different corridors of an opening more or less fittingly.

In the context of educational policy and theory, this line of argumentation reveals that openness can hardly be justified as a value with a fundamentally positive connotation. An opening of Bildung is thus to be understood in relation to its closing implications. Opening imperatives in education can create illusions that obscure the view of social inequalities. Lenzen (2014) refers to the paradox that educational institutions' social function – in the medium of comparison – is based on the selective allocation of individual opportunities that fundamentally contradict a demand for openness and equal opportunities. The often political-emphatic charge of the discussion about openness can be countered in scientific discourse by understanding and further analyzing openness and mechanisms of opening in their relation to closedness and closure.

In the transition to the digital era, power shifts can be observed. The possibilities of actors to open and close access to knowledge and participate in education on the Internet are fundamentally renegotiated (Baecker, 2017). If Bildung in lifelong learning is increasingly taking place in digitally mediatized spaces, the question becomes how Bildung figures in these contexts. In the transition phase to the digital era, how Bildung in the digital world is based on the monopolization of knowledge (platforms) and their marketing will be decided. Bildung can rely on knowledge participation in a culture of sharing (see Kerres, 2018a).

The question of the availability of freely available and openly licensed knowledge resources must be further discussed in the context of such shifts. Even though there have always been autodidactic forms of lifelong learning with media, learning media and libraries have in the past regularly been closely related to organized educational opportunities in schools and universities. With the ubiquitous availability of such resources and their seamless integration into the living and working environments, their relationship to organized education must be reconsidered.

It is essential to point out the difference between OER and Open Education. The availability of information or openly licensed knowledge resources on the Internet does not automatically contribute to more education and the reduction of educational inequities. The decision to prepare and make available a certain type of knowledge for teaching/learning purposes implies the decision to mark

a certain type of knowledge as learning-relevant for a culture that excludes other types of knowledge in the first place. The preparation of this knowledge resource will always be in one language, thus excluding other languages; it will always use a culturally shaped means of presentation, thus excluding other ways.[5] As long as we move within a given cultural context, such disparities are less striking. However, there are sufficient examples worldwide in which certain content in certain languages is not available as a media-based knowledge resource and thus has an exclusionary effect. In Africa, for example, not even the simplest textbooks for learning the basic skills of reading and mathematics exist for many of the languages of origin in those regions (Bunyi, 1999). Indeed, the existence of such resources for teaching and learning will always privilege those who can acquire such knowledge and exclude others who do not. Beyond the technological prerequisites of Internet access, the most important factors are personal preconditions, such as prior training in the use of adequate resources and the time to engage with them, as well as the possibility of obtaining support from an educational institution that can monitor the learning and development process.

Self-directed, lifelong learning based on open Internet resources – without the framing of an education provider – will continue to gain importance, especially if AI-based support can foster the teaching-learning process. The idea that with the availability of knowledge resources on the Internet, all knowledge is now freely available to all people fails to recognize the importance of an educational system in the development of competencies in a society. Educational providers will be able to redefine their role and play a more prominent part in the design of appropriate digital services. However, they will adjust to the fact that these services will be organized less course-like on respective platforms. It remains to be seen whether lifelong learning on the Internet will cause the educational system to withdraw from the social function of selecting and allocating social opportunities and whether alternative mechanisms will be established within or outside of the educational system as a society can hardly cope without such mechanisms.[6]

It will be necessary to elaborate on the contribution of OER to Open Education with regard to broad participation in education, social development, and an open discourse. It is evident that the mere provision of materials with certain licenses can hardly fulfill such goals and that an argumentation based on this will be intricate for the actors to maintain. However, if such overriding social goals are pursued, the at best loosely coupled structure of the various opening initiatives will have to be further examined in educational science discussions.

Notes

1. In order to refinance the provision of MOOCs, we are increasingly finding business models in which refinancing of the production costs for the material is attempted through additional services (consulting, tutorial support, testing, certification).

2. Translated by the authors.
3. Translated by the authors.
4. Translated by the authors.
5. As such, we can assume that teaching concepts and teaching styles are different from one culture to another (see, e.g., Ramburuth & McCormick, 2001).
6. See, for example, the discussion on (open) "badges" as a peer-to-peer mechanism through which competencies are documented on the Internet.

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Chapter 4

Beyond numerical rationality

Bildung under the auspices of digital capitalism

Christian Leineweber

Introduction: Pedagogy and society

Pedagogy is essentially characterized by the social task to educate human beings under the conditions of an autonomous, self-determined, and in addition to that, free life (see Sesink, 2004, p. 132 ff.). This task is about to prepare learning subjects for their (future) lives, with the perspective of enabling them to take on a certain role in society (see Luhmann, 1997, p. 18). In a certain sense, we can say that education is a directive activity to recognize human being's abilities and to promote opportunities for their social integration (see Luhmann, 2002, p. 15). Therefore, pedagogical efforts must appear appropriate to the current state of social structures. Dependence on society is a structural element of pedagogy.

The dependency between pedagogy and society derives from the intellectual and revolving movement of European Enlightenment. Thought from a social perspective, Enlightenment first means a learning process in which subjects develop their ability to understand and learn to understand (see Vogel, 2001, p. 35). Enlightenment means insight, which finds its expression in emancipation from external constraints like superstition, material poverty, or tyranny (see Rosa, 2016, p. 517), accompanied by "the respect for human right, equality and the universality of law" (Berardi, 2009, p. 30). This respect finds its justification in the human exploration of nature (see Borst, 2011, pp. 13 f.) through "the exercise of rationality" (Berardi, 2009, p. 30). With rational movements, modern society's development acquires its form, which is essentially based on a profound technological, economic, and in addition to that capitalist change (see Sesink, 2006, p. 77 f.).

In the sphere of Enlightenment, modern society's rational change is firmly connected with the ideal of human freedom. I. Kant's essay *What is Enlightenment?* from 1784 already points the way to this privileged perspective:

> Enlightenment is man's emergence from his self-imposed immaturity. Immaturity is the inability to use one's understanding, without guidance from another. This immaturity is *self-imposed* when its cause lies

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> not in lack of understanding, but in lack of resolve and courage to use it without guidance from another. *Sapere aude!* "Have courage to use your own understanding!" – that is the motto of enlightenment […] Nothing is required for this enlightenment, however, expect freedom; and the freedom in question is the least harmful of all, namely, the freedom to use reason publicly in all matters.
>
> (Kant, 1784/1983, p. 121 f.)

The rational character of freedom is related here explicitly to the subject's reasonable use of understanding. This emphasizes the epistemological character of Enlightenment. The moment Kant demands that this use must be made public, it consequently ensures that social conditions are given a free direction. Enlightenment is thus to be interpreted as a confession that the function of freedom is ultimately not be oriented toward society but to human beings (see Luhmann, 2002, p. 18 ff.). In the context of German-language pedagogy, this specific claim to freedom meets with the term Bildung. Starting from the humanistic renaissance of the Enlightenment, Bildung is associated with subjectivity, self-determination, self-consciousness, and self-cultivation, which emerge from the interplay between individual self and (social) world (see Coghlan & Brydon-Miller, 2014, p. 79). So, if we take the dependency between pedagogy and society seriously, then Bildung represents a specific concept of education that can be used to raise the question of freedom under the conditions of sociality.

On the following pages, I will pursue this question in relation to digitalization. The digitalization process transforms our social world increasingly. This transformation is complex and affects both culture (see Stalder, 2016) as well as educational processes in a theoretical and practical way.

In the context of these complex changes, my concrete concern will be an analysis of *Bildung* under digital capitalism's auspices. In the first step, I am going to describe the relationship between *Bildung* and freedom. I will try to argue that the subject's actions are always guided by the justifications and rationalizations of society. From this point of view, in a second step, I will describe our society as a capitalist society, which is primarily structured by the goals of maximization and progress. My main thesis will be that these two goals are also relevant in the structures of a digital world. In a third step, this thesis will be explored by linking the phenomena of big data and subjectivation. This link aims to show that big data is based on a numerical logic which, on the one hand, provides rational patterns of orientation but, on the other hand, tempts subjects into increased control and self-management. In this way, a path can be identified in which the logic of capitalism merges with the subject's actions. In conclusion, I will discuss to what extent my argumentation challenges the concept of *Bildung* respective freedom. In recent years, catchwords such as *postmodernism* or *post-histoire*, as well as theoretical approaches such as practical philosophy, have suggested an increasing

distance from an understanding of the Enlightenment based on rationality and in addition to that reason and freedom (see Habermas, 1985). With the present contribution, I will follow these perspectives by demanding the freedom of subjects beyond rationality.

Bildung and freedom

This chapter intends to show why the concept of *Bildung* is relevant when we question the possibilities of subjective freedom in social life.[1] In this sense, *Bildung* needs to be understood as a quality of life that results from the relationship between subject and society. This implies that *Bildung* does not unfold in a sole subject's reference to itself (see Koller, 2009, p. 36) but also requires "a world outside" (Humboldt, 1792/1969, p. 58) as well. In this way, thinking about *Bildung* means thinking in relations (see Iske & Meder, 2010, p. 21).

How can this thinking be pointed out in relation to subject's freedom in social life? An answer to this question can be found in G. W. F. Hegel's *Element of the Philosophy of Right* from 1821, where he points out that the idea of subjective freedom is determined by formalizations that were not originated by the subjects themselves. Hegel thus recognizes the free subject as a part of social structures (e.g., family, class, state), in which he considers a "universal determination of the good" (Hegel, 1821/1991, p. 173) to be possible on the basis of intentional contexts of actions. In the Hegelian tradition of the 21st century, such intentional contexts of actions are also described as practices (see Jaeggi, 2014, p. 95 ff.; Menke, 2018, p. 28). In general, practices need to be understood as rule-based activities (see ibid., p. 28), in which subjects are involved alone or together with others, such as queuing at the checkout while shopping, hosting a dinner for friends, playing hide and seek with children, holding a lecture, and so forth (see Jaeggi, 2014, p. 100). In this way, being a part of practices means being a part of a social world (see Menke, 2018, p. 27). In practice, individuals meet roles and expectations and thus fulfill themselves in social contexts. For example, as a child, one learns that an action in the circle of friends leads to acceptance, while the same action may lead to criticism in the context of the family (see Jörissen & Marotzki, 2009, p. 23).

According to this argumentation, an organized and structured life could never succeed without disciplining individuals, which implies a lack of freedom (see Menke, 2018, p. 53). Consequently, freedom is only possible if subjects are within socially generated and accepted contexts, which means that they act in regulated areas of justifications and rationalizations (see Rössler, 2019, p. 372).

In the specific context of the subject's social dependence, Hegel's theory of *Bildung* becomes important, which is premised on the thesis that the subject can free itself "through the *development* [*Ausbildung*] of his own body and

spirit, *essentially* by means of *his self-consciousness comprehending itself as free*, that he takes possession of himself and becomes his property as distinct from others" (Hegel, 1821/1991, p. 86). Here, the human ability is described, which Hegel wants to be understood as "liberation and work" that "is the absolute transition to the infinitely subjective substantiality of ethical life, which is no longer immediate and natural, but spiritual and at the same time raised to the shape of universality" (ibid., p. 225). In this sense, we can say with Hegel that *Bildung* means liberation through work, and work in turn "transforms the World and civilizes, educates man" (Kojève, 1969, p. 24). Hence, one basic idea of the Hegelian concept of *Bildung* is to combine social principles and subjective freedom in such a way that they constitute each other (see Menke, 2018, p. 47). The origin of one's action lies in social life. To participate in practices means to be guided by society's justifications and rationalizations and to acknowledge those for one's actions (see ibid., p. 31).

This idea seems to be problematic if we assume that social structures are not clearly or distinct. In an enlightened vision (see Chapter 1), this issue can be defined as a *contingency*. The conceptual scheme of contingency asserts that every decision appears only as a possibility, which could, in principle, turn out differently than expected or planned (see Luhmann, 1971, p. 32). In this way, an emancipatory Enlightenment's ideal character receives a concrete and furthermore processual structure: Everything that can be seen can also be seen differently (see Vogel, 2001, p. 27).

The contemporary literature of German-language pedagogy responds to the issue of contingency with an understanding of *Bildung* as a transformative process (see, e.g., Kokemohr, 2007; Koller, 2017; Marotzki, 1990). Following W. Marotzki's *Entwurf einer strukturalen Bildungstheorie*, this transformative process is based on self-reflective learning processes that relate to constructions of subjective world-orders (see Marotzki, 1990, p. 41). Here, the focus is on the subject's ability to acquire other perspectives *through* experiences and knowledge to see the world differently and be in the world in a different way. In this way, *Bildung* should not be understood as a simple process of acquiring information, knowledge, or even competencies, but rather as a transformation of the subject's relation to the (social) world and to itself (see Koller, 2017, p. 34). By constructing their world in different ways, subjects develop flexibility in relation to already internalized and familiar habits, which opens up possibilities for a changed self-reference (see Jörissen & Marotzki, 2009, p. 26; Marotzki, 1990, p. 43).

The crucial thesis for Marotzki is that the necessity of a transformation of the subject's relation to the (social) world and to itself lies in experiences of crisis (see Marotzki, 1990, p. 25). As a transformative process, Bildung means "*Bildung* as a crisis-laden process" (Koller, 2017, p. 34). Due to experiences of crisis, previously acquired perspectives prove to be uncertain, so that potential for new perspectives is released. This is associated with a qualitative leap in the learning process (see Zulaica y Mugica, 2019, p. 233). Therefore,

Bildung includes "learning processes on a higher level, during which the way of processing new information changes" (Koller, 2017, p. 34; see also Marotzki, 1990, p. 185).

A decisive aspect here is that experiences of crisis enable a transformation of the subject's relation to the (social) world and to itself if they put the subject in a mode that Marotzki calls *tentative* (*Tentativität*) (see Marotzki, 1990, p. 145). Tentative processes of experiences distinguish from subsumed processes of experience. Tentative processes of experience lead to the issue that previously learned and acquired perspectives are no longer sufficient to classify and handle new occasions (see ibid., p. 151; Koller, 2017, p. 34). Therefore, a search and construction of new perspectives are needed, which is linked to a transformation process (see Marotzki, 1990, p. 145 ff.). In this way, Marotzki places the consequences of contingency at the center of his idea of *Bildung*. Here, a surplus of possibilities means that search and orientation movements become the basic condition of one's existence (see ibid., p. 29). *Bildung*, as a transformative process, deals on the one hand with how subjects orient themselves in the (social) world. On the other hand, as a transformative process, *Bildung* draws attention to the fact that this orientation never seems to be complete. Search and incompleteness converge in the idea of *Bildung*. In the context of contingency, this convergence of search and incompleteness cannot be a subjective end in itself but needs rather be understood as a social necessity.

While we can argue with Hegel that justifications and rationalizations of society provide good reasons for the subject's actions, a contemporary look at the transformative structure of *Bildung* also shows that such reasons are questioned where social practices prove to be contingent and cause uncertainty and crises. In the context of *Bildung* as a transformative process, acting means not only acting in predetermined and secure contexts. Instead, in the context of *Bildung* as a transformative process, it is also about the ability to move between several contexts and not to be unsettled by the presence of several possibilities of action (see Leineweber, 2020a, p. 55 ff.). With B. Rössler we can say that subjects can only act free if they can deal with social ambivalences (see Rössler, 2019, p. 63 ff.). But no arbitrary actions are meant here. *Bildung* as a transformative process means not an absence of justifications and rationalization, but rather a search for new, subjective rules with social laws based on own experiences. In this way, we can talk about freedom through the fact that subjects, based on what is socially anchored, give themselves laws according to which they act.

Finally, this results in a paradoxical form of the free-acting subject: Although acting is based on justifications and rationalizations of society, free acting also implies an escape from social guidances by own experiences. In the context of *Bildung*, acting free means to examine and, if necessary, modify the rationalizations and justifications of the social world based on one's own experiences. In the following, I will try to reflect on this paradoxical form, starting with one possible answer to the question in which society we currently live.

Digital capitalism

As we are still living in a capitalist society (see Fraser & Jaeggi, 2018), maximization (see Žižek, Ruda, & Hamza, 2018, p. 101) and progress (see Rosa, 2016, p. 679) can be identified as the two main goals of our contemporary coexistence. The origin of these goals is found in the monograph *The Capital – Critique of Political Economy*, where K. Marx analyses capitalism as a social order that is not "solid crystal, but an organism capable of […] constantly changing" (Marx, 1887, p. 8). The basis of this analysis is the logic of accumulation "M – C – M" (ibid., p. 104). As is well known, this logic summarizes a cycle in which money (M) has to be invested in producing commodities (C) and to be able to sell them for more money (M′). In this sense, money "becomes value in the process, money in the process, and, as such capital"; the value of money "comes out of circulation, enters into it again and multiplies its circuit, comes back out of it with expanded bulk, and begins the same round ever afresh" (ibid., p. 108).

Above all, economic history shows that technical innovations prove to be helpful where profit maximization or capital accumulation is concerned. In this way, technological innovations change economic structures by producing new goods, making them cheaper, or opening new markets (see Schumpeter, 1928, p. 127). To clarify, technological innovations increase capitalist productivity.

The link between technological innovations and capitalism provides a reason to reflect on a possible link between capitalism and digitalization. To address this, D. Schiller proposes the concept of *digital capitalism*. In his early works, Schiller was primarily concerned with the transnational expansion of communication networks and their influence on economic but also social structures: "Indeed, the internet comprises nothing less than the central production and control apparatus of an increasingly supranational market system. […] Networks are directly generalizing the social and cultural range of capitalist economy as never before" (Schiller, 2000, xiv). In later works, Schiller states that digital capitalism ties in with industrial capitalism, whose peak emanates from the late 19th century and continues into the 1960s (see Schiller, 2014, p. 8). In this way, the digital networks of information and communication (ICT) move to the center of the economy (see Staab, 2019, p. 55 ff.).

Thus, ICT can be generally seen as an instrument for capital accumulation. The principle that essentially works here is summarized with Benjamin Franklin's popular formula "time is money." The time that is not used productively is wasted time. Under economic structures, those who produce and sell more in the same (or even in a shorter) time are successful. Technical innovations, such as the Spinning Jenny or the Steam Engine, meet this requirement by enabling a targeted division of labor and accelerated production processes (see Nowotny, 1993, p. 94; Rosa, 2012, p. 99).

Therefore, Z. Bauman could emphasize that the age of modernity was "born under the stars of acceleration" (Bauman, 2000, p. 112). With this birth, the "relation between time and space was to be from now on processual, mutable and dynamic, not preordained and stagnant. The 'conquest of space' came to mean faster machines" (ibid., p., 112 f.). ICT follows this claim. In the universe of digitalization, "space may be traversed, literally, in 'no time'; the difference between 'far away' and 'down here' is canceled. Space no more sets limits to action and its effects, and counts little, or does not count at all" (ibid., p. 117). ICT puts the world within communicative reach (see Rosa, 2016, p. 521) and transforms rigid space-time relations into an omnipresent respective ubiquitous presence (see Stalder, 2016, p. 147). For example, a globally distributed production of commodities becomes possible in this way: 9 companies in 7 countries with at least 37 suppliers are currently involved in the production of Apple's iPhone, while the product itself seems to be available in almost all countries around the world (see Staab, 2019, p. 62 f.).[2]

However, a sole interpretation of ICT as an instrument of capital accumulation does not reach far enough. Rather, both sides – ICT *and* capital accumulation – are mutually dependent, as H. Niesyto argues in his contribution *Medienpädagogik und digitaler Kapitalismus*. On the one hand, Niesyto cites four capitalist principles of our contemporary coexistence. In addition to capital accumulation, these are the automation of work processes, the reduction of costs by using technology, and finally, the increase of consumption rates (see Niesyto, 2017, p. 61). On the other hand, Niesyto contrasts these aspects of capitalism with four weighty principles of digitalization. These are the conversion of analog signals into binary values, the technical simulation of perceptions, the possibility of networking in real time, and finally modularization, which means the arbitrary exchangeability of several parts within production processes (see ibid., p. 62). Based on this analysis, Niesyto finally concludes that the interdependence of capitalism and digitalization has the power to change the way of our existence, our work, and our social life (see ibid., p. 64).

This conclusion gains weight when one considers that digitally generated orders have already become a constitutive part of our culture. More and more social actions are embedded in technical arrangements without which certain processes would hardly be conceivable (see Krotz, 2007, p. 12; Stalder, 2016, p. 11). Therefore, two aspects can be identified in the sense of the argumentation presented here: Firstly, we are currently living in a capitalist society that is additionally driven by ICT. Secondly, we are also living in a culture shaped by digitalization. These indications draw attention to how digitalization and capitalism are converging. It is an abstract convergence, which I am going to elaborate in the following. The confrontation between big data and subjectivation points the way for this concretization.[3]

Big data and subjectivation

Today's society is flooded by ICT with a growing amount of information, the accomplishment of which challenges human nature (see Baecker, 2013, p. 156; Mau, 2018, p. 75). Big data offers a solution to this challenge by enabling a description of our world's complexity, with the prospects of storing, analyzing, and organizing it (see Boyd & Crawford, 2013, p. 188; Mayer-Schönberger & Cukier, 2013, p. 78). Based on machines' autonomous calculations, big data generates knowledge and insights that exceed human capabilities (see Bächle, 2016, p. 111). In this way, individual and collective perspectives are gradually transferred into objectified data structures. With the availability of an increasing amount of data, humanity is moving to a coexistence in which everything that can be converted into numbers and figures seems to be important. For rational and enlightened societies (see Chapter 1), the appeal of this development lies in the idea that numbers and figures convey precision, clarity, simplification, verifiability, and neutrality (see Mau, 2018, p. 27). As an effect of this rationalist development, the pursuit of absolute knowledge intends a technical exploration of human nature (see Bächle, 2016, p. 117). This corresponds with the anthropological assumption "that knowledge is based on data immediately given to the individual mind" (Davidson, 2004, p. 3).

Given these potentials, it is not surprising that big data currently has a profound impact on the way we live. Data is the leading currency of our digitalized society, in which more and more phenomena are described and influenced by numbers (see Mau, 2018, p. 23 ff.). This also implies that the question about the possibilities of subjective freedom in social life (see Chapter 2) takes place in calculated constellations. On the one hand, classifications serve as a basic organizational principle of our society, e.g., through identity cards, fingerprints, or passwords (see Bächle, 2016, p. 157). On the other hand, measurements affect social practices and here influence the view on individual consumption, health, work, leisure, activities, education, emotions, nourishment, and so on and so forth (see Mau, 2018, p. 13). From this perspective, subjects increasingly transform into *datasubjects* (see Bächle, 2016, p. 157). Big data makes visible and defines who we are, where we stand, how others see us, and what awaits us in the future (see Mau, 2018, p. 24).

Based on these considerations, I want to argue in this chapter that big data not only represents a technical rationalization of the world but also has an impact on two relevant aspects in which the capitalist striving for maximization and progress (see Chapter 3) converges with the actions of the subjects through digitalization. These two aspects are control and self-management. Both aspects subsume our world in a "logical reduction" by numbers and figures, holding it captive in a "capitalist form embodied as technical Reason" (Berardi, 2009, p. 72).

To develop and understand this perspective, it is initially crucial to ask when subjective actions can be called rational. An answer to this question can be given with S. Gosepath, who considers an action as rational when it offers the best chance of achieving its goals. Therefore, the estimation of rational action is linked to its justifications. An action is rational if the actors know how to justify why they do what they do (see Gosepath, 1992, p. 36). Consequently, action rationally does not mean that subjects do what they want. Rather, rational actions presuppose the question of what to do for reasons. In rational actions, subjects make decisions based on information so that they constantly adapt to changing environmental conditions (see Bröckling, 2013, p. 106). Here, the action is meant that I. Kant describes in *Critique of Pure Reason* as freedom in a "practical sense" that "is the independence of the power of choice from necessitation by impulses of sensibility" (Kant, 1787/1998, p. 533).

If the subjects' rational actions are secured by justifications, numbers, and figures, respectively, data first initially promises *control*. In principle, numbers and figures convey precision, clarity, simplification, verifiability, and neutrality (see Mau, 2018, p. 27). In this sense, Voltaire already described statistics as the pure form of enlightened thinking. Statistics contrast mythological narratives with objective knowledge based on numbers (see Han, 2015, p. 80). Subsequently, one can argue with D. Rosenberg in relation to data: "Above all, it is crucial to observe that the term 'data' serves a different rhetorical and conceptual function that do sister terms such as 'facts' and 'evidence.' To put it more precisely, in contrast to these other terms, the semantic function of data is *specifically* rhetorical" (Rosenberg, 2013 as cited in Bächle, 2016, p. 133). Data is undeniable in its rhetorical constitution, which places it close to the truth (see Bächle, 2016, p. 133). Therefore, data-based information can claim to be true information.

To the extent that the potential of data is hidden under a guise of truth, a problem related to the question of subjective freedom can also be identified. This problem means that data can be used not only as a controlling technique but also as a technique of control. G. Deleuze's short but also well-known *Postscript on Societies of Control* provides the decisive basis for such a problem assignment. The crucial thesis for Deleuze is a "generalized crisis in relation to all the environments of enclosure – prison, hospital, factory, school, family" (Deleuze, 1992, p. 4). This is to be understood as an extension of the theory of disciplinary society. M. Foucault saw human bodies disciplined in a repressive way by social rules and laws that require allegiance and submission (see Foucault, 1995, p. 135 ff.; Berardi, 2009, p. 197). These rules and laws "imposed by the modern state over individuals had an interior character with respect to the conscious organism, represented by the citizen" (Berardi, 2009, p. 197). With each new period of live modern human beings change from closed environment to another: From family to school, from school to the barracks, from the barracks to the factory, from time to time to hospitals, possibly prisons, and so on and so forth (see Deleuze, 1992, p. 3).

The "generalized crisis of all environments of enclosure" as diagnosed by Deleuze is now based on the idea that closeness and rigidity seem not to be appropriate anymore for a society which is based on the present development respective "mutation" of capitalism (Deleuze, 1992, p. 6; see also Han, 2015, p. 29; Bächle, 2016, p. 164). Especially digital capitalism, which refers to the liquidation of rigid space-time relations (see Chapter 3), requires new techniques of regulation that extend the physical enclosure of bodies. In Deleuze's view, the requirement ultimately justifies a replacement of discipline by the control that is at least "equal to the harshest of confinements" (Deleuze, 1992, p. 6). But what exactly is meant by that? The most important characteristic of societies of control (and at the same time the main distinguishing characteristic from disciplinary societies) is its numerical logic: Societies of control are data based (see Bächle, 2016, p. 164). In detail, Deleuze speaks of a "numerical language of control," which "is made of codes that mark access to information or reject it. We no longer find ourselves dealing with the mass/individual pair. Individuals have become 'dividuals,' and masses, samples, data, markets, or 'banks'" (Deleuze, 1992, p. 5).

In this way, numerical structures and regimes create the conditions for the control of no longer enclosed and thus acting subjects. In this sphere, social life no longer takes place according to what is allowed and forbidden but is based on *self-regulating management*. Thereby subjects are embedded in "inseparable variations," forming modulating principles of "salary according to merit" that "operate through challenges, contests, and highly comic group sessions" (ibid., p. 4). As such, "the corporation constantly presents the brashest rivalry as a healthy form of emulation, an excellent motivational force that opposes individuals against another and runs through each, dividing each within" (ibid., p. 5). In societies of control, subjects become entrepreneurs of themselves – their lives resemble shapeable projects (see Bröckling, 2013, p. 46 ff.). The numerical character of societies of control connects explicitly to the achievements of their individuals. Therefore, the structure of societies of control is a competition between entrepreneurs. Here the one who can show better results seems to be successful. Societies of control are shaped by valuations, whereby data causes new value orders (see Mau, 2018, p. 16).

If we now want to define and understand the actual core of the numerical structure of our world, we must focus on the subjective function of digital capitalism. This means to ask how maximization and progress affect subjective actions under the conditions of rationality and control. To answer this question, we need to remember that rational actions can be defined by asking what to do for reasons. If these reasons are characterized by the capital accumulating goals of maximization and progress, then finally, an interpretation of the subject as an entrepreneur of itself can be explored. Within the context of an acting subject, maximization and progress simply mean contingency or rather increasing freedom: "Growth creates opportunity" (Staab, 2019, p. 143). So, capital no longer refers primarily to money, but to the search for other and possibly better opportunities (see Baecker, 2018, p. 11). In the

context of social life, this inference can be construed as the origin of competition controlled by data. Everyone can and should continuously prove themselves, improve, or outperform others – and for verification, numbers and figures seem to be useful (see Mau, 2018, p. 68). This model goes through a cycle of motivation, individual projects, optimizing, initiative, and obligation to achieve (see Han, 2015, p. 30, 2019, p. 23).

In summary, the influence of subjective actions through data or rather numbers and figures increases "an operational kind of rationality," so "the world is subsumed in a digital and logical reduction" (Berardi, 2009, p. 72). In the context of digital capitalism, subjective acting becomes measurable, while at the same time, the limits of achieved goals become temporary, dynamic, and limitless. As a result, life structures become uncertain. According to H. Rosa, this uncertainty causes a subject's fundamental fear, which is expressed in a feeling of standing on *slippery slopes* in all spheres of life. Standing on *slippery slopes* means being irrevocably left behind in a world with growing possibilities, missing important decisions, or falling back behind expectations (see Rosa, 2005, p. 284 f.). Subjects who stand on *slippery slopes* do not live life in the best of a possible world, but in a world full of better possibilities (see Luhmann, 1971, p. 297). They live in a world without closure. Or as Deleuze wrote:

> In the disciplinary societies one was always starting again (from school to the barracks, from the barracks to the factory), while in the societies of control one is never finished with anything – the corporation, the educational system, the armed services being metastable states coexisting in the same modulation, like a universal system of deformation.
>
> (Deleuze, 1992, p. 5)

As an effect of structures influenced by data control, subjective actions lose their relation to external compulsions but are more and more guided by internal activity constraints. The controlling, entrepreneurial subject's constraints are self-generated (see Han, 2013, p. 80). In the context of numbers and figures, subjective acting becomes abstract acting. Such an interpretation is inspired by K. Marx's description of abstract work, in which "workers give their time for producing value in conditions of complete indifference to be useful of their product" (Berardi, 2009, p. 58). This implies "the transformation of human activities into empty performances of abstract time, [which, CL] is progressively expanding to all possible forms of social activity. The final point of this process is the subsumption of the productive labor of mental activity itself the sphere of value-production, which results in its ultimate reduction and abstraction" (ibid.). In this sense, the capitalist striving for maximization and progress affects the subject's sphere of action. Subjective actions become successively operationalized as a pure function of the production process (see Han, 2013, p. 81). Ultimately, this analysis must be questioned with a view on the concept of *Bildung*, as I will show in the final chapter.

Conclusion

At the beginning of this contribution, the idea was proposed that subjects always act in practices that are already socially produced and accepted and that are regulated by justifications and rationalizations. This idea was contrasted with a concept of *Bildung* that emphasizes a conception of freedom. Although acting is based on practices, free acting is structured by proving and modifying the social world's justifications and rationalizations based on one's own experiences. All in all, a connection between *Bildung and freedom* cannot be realized in rational ways alone (see Pietraß, 2014, p. 368), which at the same time emphasizes the subject's integrity in the social.

This claim stands and falls with the fixed structures and dynamic changes in society. If we understand our society as a capitalist society, maximization and progress can be identified as the two main influences on these structures and dynamics. And suppose the argument is right that capitalism and digitalization are converging. In that case, one can ask what influence this convergence has on the relationship between subjects and their society under the conditions of freedom.

The present contribution gives an answer to this question regarding to a confrontation between big data and subjectivation. With big data, individual and social life take place more and more in calculated constellations. These constellations redefine the notion of rationality through facts, numbers, and figures, pursuing the capitalist strive for maximization and progress while affecting subjective acting through control and self-management. In the linked context of digital capitalism and big data, subjective acting becomes more and more measurable, comparable, and thus competitive. Here, those who can show better results are more successful. In the linked context of digital capitalism and big data, subjectivation ultimately means that acting is not guided by subjective justifications but by a numerical standard. In this way, freedom dissolves into control and self-management (see also Han, 2015, p. 82). Thus, the ratio of the economy seems to be the driving force of human reason (see Bröckling, 2013, p. 97). Big data changes the structure of subjective acting.

The pedagogical interest of this change resides entirely in the fact that the educational system will be influenced by big data in the future (see Mau, 2018, p. 42). Here, *learning analytics* and *educational data mining* are good examples that promise "the use of intelligent data, learner-produced data, and analysis models to discover information and social connection for predicting and advising people's learning" (Siemens, 2010 as cited in Ebner & Schön, 2013). This promise's quality refers to the ability to calculate patterns that might be relevant for meaningful planning of learning processes. *Learning analytics* and *educational data mining* appear to be appropriate for improving or optimizing educational intentions.

In his contribution *Bildungstechnologische Echtzeitanalyse*, C. Swertz states on the one hand that the analytical planning of learning processes tends toward

a cybernetic ideology, which understands human beings as information-processing systems (see Swertz, 2018, p. 6). On the other hand, Swertz argues that the idea of improving and optimizing learning processes resembles a neo-liberal effort that is primarily concerned with efficiency (see ibid., p. 7). This perspective can be strengthened by M. Waldmann and K. Walgenbach. They argue that learning architectures generate entrepreneurial structures in which learners' performance can be controlled internally and externally, which ultimately leads to an expansion of the need for competition (see Waldmann & Walgenbach, 2020).[4]

The fact that analyses and measurements are used for wrong purposes may not be a completely new insight. Already in 1930, Sigmund Freud wrote in his famous treatise *Civilization and its Discontents*:

> It is impossible to escape the impression that people commonly use false standards of measurement – that they seek power, success and wealth for themselves and admire them in others, and that they underestimate what is of true value in life.
>
> (Freud, 1962, p. 12)

My considerations started with the argumentation that education is to be understood as a pedagogical activity to recognize human being's abilities and to promote opportunities for their social integration. Thus, education is a process of linking social demands with subjective interests. This linking should be balanced if *Bildung* represents a specific concept of education: In it, neither society's justifications and rationalizations should lead to constraints, nor should subjective interests be enforced without taking social conditions into account. Under the outlined auspices of digital capitalism, this can only succeed if big data possibilities do not exclusively determine learning situations. If we look back at the Freudian quotation, we can see that *Bildung* can serve as a truthful standard of educational analyses and measurements that seeks true value in life beyond numerical rationality.

Notes

1. To this extent, perspectives are brought together that have already been developed and differentiated elsewhere (see Leineweber 2020a, 2020b, 2020c).
2. In his recently published study *Digitaler Kapitalismus*, P. Staab has attributed these new conditions of digital production to the possibilities of networking and decentralization. Staab also cites market control as a further capital potential of ICT. According to Staab, market control leads to a dependence of users on certain software programs. Those who use IOS will eventually find it difficult to switch to Android (see Staab, 2019, p. 54 ff.).
3. Following Judith Butler, subjectivation is to be understood as a cipher to answer questions of becoming a subject under the conditions of freedom and enforcement. In this way, becoming a subject is a paradoxical process in which active

and passive moments are intertwined (see Bröckling, 2013, p. 19). Therefore, subjectivation "denotes both the becoming of the subject and the process of subjecting – one inhabits the figure of autonomy only becoming subjected to a power, a subjection which implies a radical dependency" (Butler, 1997, p. 83). With the concept of subjectivation, freedom is not a state in the world, but a permanent proceeding.

4. For similar perspectives, see also Damberger (2019, pp. 259–359) and Dander (2014).

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Chapter 5

Limitations of pedagogical interventions

Recognition and agency in the context of digital media-related Bildung

Michi S. Fujii, Nadia Kutscher, & Klara-Marie Peters

Bildung – Appropriation and recognition

Given digital inequalities and big data as digital phenomena, the scope of educational approaches to empowerment and recognition comes into question. As subject-related pedagogical interventions aiming at (self-)empowerment have limitations in terms of promoting autonomy, this chapter reflects the approach of social work opening up public places to marginalized people for resistance and participation in discourse.

Theorizing Bildung as a concept that locates education in the relationship between subjectivity and sociality, education can be defined from a socio-pedagogical perspective as the relationship between appropriation and recognition (Stojanov, 2018, 2011, p. 67 ff.; Walther, 2014, p. 97). If Bildung is reflected in these two dimensions – concerning its subject-related and its social dimension – it is necessary to understand how appropriation and recognition processes unfold so that an experience of Bildung occurs.

Regarding the *first* aspect, Michael Winkler assumes that Bildung is based on self-appropriation of the world by a subject capable of acting. The individual is the active subject here, appropriating the material world in a nonmaterial way. This subjective activity of appropriation becomes concrete in the process of Bildung, in which the subject explores his or her social and natural environment and gets an idea of it based on experience. These images of the world are not merely passively adopted but actively comprehended and processed: the subject learns to be able to perceive the environment into which he or she will grow, to deal with it, and to apply the knowledge practically he or she has gained by contemplating. The active moment of the appropriation process extends far into the sphere of the original object of appropriation. When the subject appropriates his or her environment, it does not remain unaffected. Instead, the appropriation of the environment affects the material world. It does not modify materially, but the relationship between the material world and subject changes. Also, the individual is not unaffected by the appropriation process: it subjectifies itself in the mode of engagement with the environment – the subject experiences a modification (Winkler, 1988, p. 146).

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The modification process of the relation between subject and environment can be understood as a momentum of setting-oneself-in-relation and represents the central aspect of the subjective element of Bildung.

This reciprocal relationship, in which the subject creates itself as itself and thus constitutes itself in the process of appropriation, presupposes its agency (Walther, 2014, p. 101), which is therefore both a prerequisite and a consequence. The act of appropriation can thus be thought of within the framework of different levels: within the framework of basic life activity, the individual actively deals with its environment. This confrontation does not mean a passive appropriation of given knowledge, but an active process of "meaning-making." This process of the first-order appropriation is the prerequisite for second-order appropriation: The subject reconstructs its experience in the world during the first order appropriation process and learns about the world in which it is acting. This appropriation process becomes a subjective occurrence of Bildung on the third level, which necessarily presupposes the second one: The self-world-relationship transforms, based on the reflection of the experience.

The *second* dimension of Bildung, the social dimension, focuses on the recognition of individual practices in a social context. The act of recognition, which is constitutive for the subjective process of Bildung, has two origins: On the one hand, the recognition of individual practice needs a (recognizing) counterpart. On the other hand, the learning processes and transformations of the relationship between self and world need to be acknowledged by the subject itself. Regarding the social side of Bildung (Sting, 2004), it is thus embedded in sociostructural and sociocultural social forms and practices.

Recognition and its significance for the emergence and development of subjectivity, identity, and sociality are also addressed due to struggles for recognition (Benjamin, 2016; Honneth, 1994; Taylor, 2016). It is also understood as a reflection category for pedagogical intervention (Grossmass & Perko, 2011) and an analytical instrument for the potentiality of subjectivity and society. Both are related to each other, constitute each other, and are conditions for each's potential existence.

Limits of Bildung under conditions of the digital divide and big data

In a digitally transforming society, the power of the subject to act as an educational objective (Eßer, 2014) is questioned in two ways – on the one hand in the context of delegitimization of certain forms of media use and on the other hand regarding the limits of self-empowerment in view of big data analytics (Iske & Kutscher, 2020; Kutscher, 2020a). Digital media have been an integral part of children's everyday lives, young people, and families already for years. In the educational context, the potentials of digital media are increasingly being addressed and partly idealized (see BMBF, 2019; Faizi, El Afia, & Chiheb, 2013; KBoM, 2011, p. 5; Palfrey & Gasser, 2008), as well

as critically discussed (see Ammad-ud-din et al., 2014; Cleppien & Kutscher, 2004, p. 83 f.; Kammerl, 2017; Niesyto, Meister, & Moser, 2009; TAB, 2014).

While questions of access are largely considered to have been overcome, on the one hand, a *second-order digital divide* has emerged in the form of different ways of using digital media. This is based on unequal resources in the sense of economic, cultural, and social capital (Bourdieu, 1997; Iske & Kutscher, 2020; Witzel, 2012) and is thus founded on social and structural life-world experiences. Against this background, the question of the extent to which participation opportunities via digital media are unequally distributed becomes relevant: Empirical studies indicate that young people with a formally low level of education using digital media primarily in an entertainment-oriented way, while young people with a formally higher level of education use the Internet in a more information-oriented way (Iske Klein, Kutscher, & Otto, 2008; Otto, Kutscher, Klein, & Iske, 2004, p. 14, 23; Schorb, Keilhauer, Würfel, & Kießling, 2008, p. 49). Peer structures are also relevant for media use patterns and distinction processes (cf. Boyd, 2012, p. 207; Krüger, Köhler, Pfaff, & Zschach, 2011, p. 487). The reasons for this include a lack of fit and different experiences of recognition: Subjective processes of Bildung require recognition by other subjects in addition to the appropriation of Bildung objects as active engagement with the digital environment (Bourdieu, 1982; Walther, 2014, p. 103). This recognition takes place within the "legitimate culture," i.e., the context in which an educational object is attributed to its legitimacy. Thus, digital media practices are also subject to classification as "legitimate" or "illegitimate" culture: Relevant life-world activities, such as the use of digital media to a pastime or the acquisition of skills relevant for everyday life through, e.g., games, which do not encompass rational learning practices in a narrow sense and are particularly widespread among socially disadvantaged target groups (Cleppien & Kutscher, 2004; Ito et al., 2008; Wagner, 2008; Welling, 2008) are not primarily regarded as education-oriented and thus estimated as not "legitimate." As a result, this practice cannot be capitalized in terms of successful participation in formal contexts of Bildung and is sanctioned by devaluation and delegitimization. The Bildung experiences as subjective development of skills, attitudes, and knowledge in the course of media use thus have a high subjective utility value (Oelerich & Schaarschuch, 2005), i.e., a high degree of usefulness in the context of concrete everyday life, but they do not connect with legitimate culture. Therefore, skills or knowledge appropriated in this context cannot or can only to a limited extent be used to expand participation – for example, in formal educational settings – and can thus be capitalized in the form of an exchange value. So, how could recognition be achieved? A shift of the legitimate, socially hegemonic culture in favor of a better fit of digital practices of socially disadvantaged people with practical value in their everyday life can hardly be imagined as possible – legitimate culture cannot be "tilted" by subjective action at the level of interaction.

Media-pedagogical interventions encounter limits in terms of their potential for overcoming inequality (Welling & Brüggemann, 2004; Kutscher, 2009; Kutscher & Farrenberg, 2017; Kutscher & Otto, 2005). Here, ideas of a "competent" and "incompetent" handling of media are often reproduced, which convey a rather "educated bourgeois" connotation of "desired" or "meaningful" media action (see Helbig & Kutscher, 2017, p. 533; Kutscher & Farrenberg, 2017, p. 54). Media competence is often narrowed down "normatively, one-sidedly cognitive and to qualification and pragmatic aspects," whereby the "lacking fit to the media function and use in everyday life" is not taken into account (Schäfer & Lojewski, 2007, p. 91). Thus, experiences and actions potentially relevant for Bildung are delegitimized as "incompetent" due to their habitual lack of fit, even though they involve transformations of the threefold relationship to oneself, others, and the world (Kutscher & Farrenberg, 2017, p. 54).

Concerning the question of agency, digital structures such as *big data* (Cukier & Mayer-Schönberger, 2013) and *algorithmizing*, on the other hand, raise the question of the extent to which something like (often emphasized in [media] pedagogical discourses) "sovereignty" (Schorb & Wagner, 2013, p. 18) is realized within these structures in the sense of autonomy of the subject. This includes in this context domination over data or free access to information and raises the question of what contribution Bildung can make to this form of enabling autonomy under these conditions. Subjective modes of appropriation and the empowerment potentials ascribed to them come to their limits in the context of big data as a structure so that the assumption of the possibility of creating a sovereign subject through Bildung can be thoroughly questioned. Big data in this context means that metadata of users of digital media are collected in a variety of ways, evaluated on the basis of algorithms, and used to calculate future behavior (see Christl, 2017) by "predictive analytics" (Andrejevic, 2011). The social-transformative effect of big data as a resource and tool takes place with the support of technologies and algorithms in the handling of information, which ultimately contain a limited significance and potential for serious misinterpretation (Cukier & Mayer-Schönberger, 2013). Even when taking a differentiated view of big data, many studies show that metadata evaluation already has discriminatory consequences (Kutscher, 2020b).

As a result of the increasing establishment of algorithm-based data evaluation and infrastructural access differentiation, the "zero or third-level divide" (cf. Iske & Kutscher, 2020) is referred to as a phenomenon of the digital divide. Based on users' data-based categorization, economic and social participation options are opened up or denied (Christl, 2017). Starting from this social discrimination that continues in virtual space, disadvantages accumulate (see Gandy, 2011, p. 176) in the form of "big data rich" and "big data-poor" (Boyd & Crawford, 2012). In discourses on media education, big data's handling is mostly discussed in terms of self-responsible protection of own

data by the acting subjects. However, this largely negates the limited possibilities of influence due to the pure focus on subjective action (and thus, the basic dimension of educational intervention) (Brüggen, 2017, p. 127). This kind of informational self-determination turns out to be shortened insofar as self-data protection requires extended knowledge of information technology. Companies' economic interests oppose these practices and users cannot control data evaluation. In this way, options for action are prestructured and articulation spaces limited (Zorn, 2017, p. 22). Against this background, Valentin Dander lists three possible scenarios of action that stand in opposition to the idea of a powerful acting subject, namely, the greatest possible renunciation of digital media (1), self-limitation and self-censorship of everyday (media) action (2), and resignation to the culture of digital surveillance (3) – with the aim of protecting one's autonomy (cf. Dander, 2014, pp. 10 f.).

In consequence of the problem of limited power to act, the question arises as to what relation (media) pedagogical approaches (can) have toward big data as both users and educators have only limited, if any, influence on their data (production). Against this background, Heidrun Allert and Christoph Richter point out that responsibility cannot be left entirely to individuals. Media literacy can only go so far here, for example, as to teach skills for dealing with party-political positions on data protection and security (Allert & Richter, 2016, p. 16). This means that the examination of big data and one's data traces is understood as learning content and for forming opinions in order to achieve something like 'data autonomy' (cf. Dander & Aßmann, 2015, p. 39), which at the same time points to the limits of educational intervention as enlightenment.

What next? Perspectives for Bildung in the digital context

The two problems identified show the limitations of subjectivation and Bildung in the digital context and their consequences for the subject: From Bourdieu's perspective, Bildung as a means of production is regarded as cultural capital and thus closely linked to struggles for economic wealth, status, and distinction, a social position as well as symbolic power, so that itself can be understood as a structural moment of power (Ricken, 2015, p. 47). This relationship also applies to the digital space, where recognition and appropriation are accordingly limited, as shown above. Besides, elements of empowerment are fundamentally questioned in the digital space – due to intransparency and inaccessibility as inner logics of big data – as demanded by establishing informed consent (cf. Reamer, 2013) or self-determination over one's digital Footprint (Trottenberg & Thomas, 2015, p. 16).

This links to the reflection on power relations in the context of digitalization and Bildung and raises significant questions regarding pedagogical intervention: A possible consequence for pedagogical action would be that working with subjects would be "only" limited to enlightenment and

empowerment for political struggle. Such an idea follows the (illusionary) logic of cultural redistribution or equal distribution to compensate for social inequalities (see Ricken, 2015, p. 47). A second would be to restrict pedagogical action to the micro-context of an "empowerment bubble," which aims at promoting a subjective perception of empowerment by individuals and ignores its actual and structural limitations. This dilemma of the necessity of Bildung in the context of the digital and its simultaneous structural impossibility affects fundamental debates on the political dimension of education. Political education can unfold a relevant social impact in this definition. When taking place in the public sphere, it has the potential to increase the audibility of delegitimized voices and to scandalize delegitimizing conditions and practices also under the condition of digitization. However, it remains questionable whether political education can breakthrough, remedy, or compensate for social inequality, which is a prerequisite for and results in delegitimization. This raises empirical questions about the conditions for the success of (political) education – and potentiates under the condition of a public sphere in the digital structured by filter bubbles.

In the context of the debate on Bildung and inequality, the consideration of non-formal educational contexts as connecting to linking social capital (Kessl, Kutscher, Otto, & Ziegler, 2004) opens the third option for pedagogical action that lies somewhere between riot and resignation: By opening up linking capital through weak ties as a perspective for overcoming inequality in the sense of personal empowerment and provision of resources sociopedagogical settings come into focus (Kutscher, 2017). Thus, they can offer support for voice in socially contested spaces and represent the interests of those whose practices with digital media are considered illegitimate by the hegemonic culture. From such a position, a Foucaultian understanding of criticism could then be formulated as "reflected obedience" (Foucault, 1992, p. 15), in the case of big data, for example, toward politics and IT companies. For educators, this means reflecting in practice under the respective institutional conditions on what possibilities are available to open up to the marginalized ones public places of resistance and participation in discourses as an element of media-related Bildung.

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Section B

Bildung-based teaching and learning in the digital age



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Chapter 6

Bildung learning as a media-pedagogical challenge

David Kergel

Introduction

This chapter discusses the possibilities of digitally based educational learning. Bildung learning is a central approach of integrative Bildung research.

Integrative Bildung research is defined by an interdisciplinary combination of Bildung-theoretical and empirical social research strategies. Bildung learning is defined as learning that is based on power and freedom or explorative curiosity and self-efficacy expectations. The didactic strategies of e-learning 2.0 can help to transfer Bildung learning into contexts of digital learning. Simultaneously, Bildung learning provides a normative framework in which e-learning 2.0 can be contextualized.

Bildung learning is a concept of integrative Bildung research. Integrative Bildung research represents an approach that integratively combines educational theoretical reflections and social research strategies (cf. Kergel, 2018a). Bildung-theoretical notions and empirical concepts are identified and made available for empirical-based Bildung research. This approach is integrative and interdisciplinary because it combines epistemological and Bildung-theoretical reflections with empirical social research strategies:

- The linkage to Bildung-theoretical positions enables a transfer of epistemologically based normative aspects Bildung into the sphere for empirical research.
- Through empirical research methods, Bildung-theoretical positions can be empirically thematized and thus falsified, validated, and extended.

Crucial notions of integrative Bildung research

One of the most influential modern educational theories is Humboldt. In the following, we will focus on Humboldt's epistemological understanding of Bildung. According to Humboldt, "Bildung manifests itself in subject's inner

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need to unfold herself." Bildung can be interpreted as a performative epistemological process of becoming a subject:

> The first function of the classical ideal of *Bildung* is integration by education and culture. This function is associated with the normative notion of humanity and the idea of an integral individual as a unifying and totalizing instance. Humanism as normative ideal places itself above social bodies, sexes, religious denominations and nations. Thus, to form oneself, to educate means to reconnect to the image of humanity within itself.
>
> (Alves, 2019, para. 4)

From a more social science-orientated perspective, education could be characterized as a positively connoted self/world-relation. The paraphrase "positively connoted" represents the mode of self/world perception: If the self/world relationship is characterized via fears, one can speak of a negatively connoted self/world relationship. A self/world relation characterized via anxiety is "negative" because it exerts a pressure of suffering on the subject. If, on the other hand, the self/world relationship is defined via self-efficacy expectations, it has a positive connotation. As a feature of Bildung or as a Bildung characteristic, a self/world relation with positive connotations does not necessarily manifest itself reflexively. Man is driven by the need to deal with the world. When this inner force unfolds, the human being can construct a positively contoured relationship between self and world.

> However, because sheer power needs an object on which it may be exercised and pure form or idea needs a material in which, expressing itself, it can last, so too does man need a world outside himself. From this springs his endeavor to expand the sphere of his knowledge and his activity, and without himself being clearly aware of it, he is not really concerned with what he obtains from the former or what he achieves outside himself by means of the latter, but only with his inner improvement and elevation, or at least with the appeasement of the inner unrest that consumes him.
>
> (Humboldt, 2010, p. 58)

As a self/world-relation, Bildung is experienced aesthetically by positive connotations.

To conceptualize this experience of Bildung, Humboldt uses the terms power and freedom. Power constitutes Bildung as a genetic form of becoming a subject. Power "drives" the individual, who "forms" himself into a self-determined human being.

The development of the subject's power takes place in or through freedom. In other words, freedom enables the subject to deal with the world and himself in a self-determined way.

> Man's entire external activity is nothing but the striving against futility. Simply because both his thought and his action are not possible except by

> means of a third element, the representation and cultivation of something that is actually characterized by being non-man, that is, world, he seeks to grasp as much world as possible and bind it as tightly as he can to himself.
> (Humboldt, 2010, p. 58)

Freedom enables the individual to develop an educationally appropriate relationship to the self/world.

Power and freedom represent two characteristics or Bildung features that enable to generate a positively connoted self/world relationship. Bildung has an action-theoretical implication: Self-development is inseparable from active engagement with and change of the world.

> However, because sheer power needs an object on which it may be exercised and pure form or idea needs a material in which, expressing itself, it can last, so too does man need a world outside himself. From this springs his endeavor to expand the sphere of his knowledge and his activity, and without himself being clearly aware of it, he is not really concerned with what he obtains from the former or what he achieves outside himself by means of the latter, but only with his inner improvement and elevation, or at least with the appeasement of the inner unrest that consumes him.
> (Humboldt, 2010, p. 58)

From this perspective, Bildung has an emancipatory effect: "It is often enough underscored that self-formation (Selbstbildung) through sociability had an emancipatory function because it was directed against all authorities, because it constituted itself outside the state, and because it openly positioned itself against differences of social estate and prevailing ecclesiastical precepts (Koselleck, 2002, p. 182). Through the confrontation with the world, forms of heteronomy are dismantled: In pure, ultimate terms, thought is never more than an attempt of the mind to be comprehensible to itself, whereas action is an attempt of the will to become free and independent in itself" (Humboldt, 2000, p. 58).

From the empirical dimension of integrative Bildung research to Bildung learning

In terms of integrative Bildung research's interdisciplinary approach, power is identified with explorative curiosity and freedom with self-efficacy expectations.

- Exploration or explorative curiosity can be defined as an innate anthropological constant: Without exploration, the subject's cognitive and emotional development seems inconceivable. Empirically, exploration or exploratory curiosity manifests itself in curious, exploratory behavior toward the world (cf. Gopnik, 2009).

- Self-efficacy expectations are based on the experience and confidence in having sufficient competencies needed to face and deal with situations appropriately.

These Bildung characteristics are also evident in Bildung learning.

In the course of learning processes, the subject constructs knowledge about himself and the world. In this way, the subject builds its self/world relationship. Bildung learning is defined as learning that displays the Bildung characteristics of power and freedom or exploratory curiosity and self-efficacy expectations.

Learning can be defined as a sustainable change in behavior or behavioral potential (cf. Faulstich, 2008, p. 33; Winkel, Petermann, & Petermann, 2006). From the perspective of Bildung-theory, learning expands knowledge about oneself and the world.

Knowledge and Bildung have a specific relationship: Following Humboldt, learning can be understood as a central component of Bildung.

> Man seeks unity only to escape from dissipating and confusing diversity. In order not to become lost in infinity, empty and unfruitful, he creates a single circle, visible at a glance from any point. In order to attach the image of the ultimate goal to every step forward he takes, he seeks to transform scattered knowledge and action into a closed system, mere scholarship into scholarly Bildung, merely restless endeavor into judicious activity.
>
> (Humboldt, 2000, p. 60)

Against the background of these considerations, learning processes that construct, reinforce, or expand a positively connoted self/world relationship are called Bildung learning and are a part of Bildung. From this perspective, learning merges into Bildung and vice versa.

Bildung learning as a collaborative process

In the course of Bildung processes, knowledge is constructed. Bildung and Bildung learning are characterized by a dynamic process of knowledge construction in which the individual unfolds explorative curiosity and self-efficacy. From this perspective, Bildung as well as Bildung learning are defined by an "irregular experience" (Schäfer, 2017). A reduced, prereduced reality as a framework within which the subject is to form itself remains a reduced reality and provides for Bildung possibilities for "limited subject." A Bildung experience needs to be irregularized (Schäfer, 2017, p. 119). In Bildung processes, everything is to be discovered, and everything can be irregularized. In other words, Bildung knows no boundaries and regularized experiences. Against the background of "irregularized experience," it is necessary to overcome "subjective limitations."

Schäfer points to the relevance of overcoming knowledge boundaries. Via collaborative epistemological processes and processes of collaborative knowledge construction, it is possible to overcome individual limits within the process of knowledge construction. When Schäfer states that "Bildung […] take[s] place when the individual has the opportunity to engage in a variety of ways with a variety of objects in the world" (Schäfer, 2017, p. 119, translation David Kergel), this variety of ways is also given by the perspectives of other individuals. From this perspective, Bildung learning is a dialogical process. The dialogic communication of Bildung enables an "exploration of other possibilities of thinking" (cf. Ahrens, 2017, p. 35). From this perspective, Bildung appears as prosocial, collaborative learning that is collaborative and defined by the Bildung characteristics of exploratory curiosity and self-efficacy expectations.

From Web 2.0 to e-learning 2.0

The dialogical dimension of Bildung learning finds its medial equivalent in the decentralized, polydirectional, and polyphonic communication of digital media. At the latest with the establishment of the term "Web 2.0," the dialogic, action- as well as production-oriented potentials of the Internet are accentuated (cf. Kergel, 2018b): "In a nutshell, what was happening was that the Web was shifting from being a medium, in which information was transmitted and consumed, into being a platform, in which content was created, shared, remixed, repurposed, and passed along" (Downes, 2005, para. 21). Web 2.0 does not describe a completely new technical structure of the Internet – although the designation 2.0 suggests a version leap. Instead, the term Web 2.0 refers to a specific form of interactive and collaborative use of the Internet, primarily the World Wide Web.

The paradigm shift marked by the term Web 2.0 in Internet discourse also had consequences for media education. In 2005, for example, Downes published the influential essay "e-Learning 2.0." Following the concept of Web 2.0, Downes outlines the approach of e-learning 2.0 in his article. According to Downes, e-learning 2.0 is defined by utilizing the polydirectional and polyphonic potentials of Web 2.0 for a dialogical and self-directed learning process. The innovations of Web 2.0 enable process innovations that can be made usable for learning events. To achieve this, the media-pedagogical challenge arises of making the process innovation.

To achieve this, the media pedagogical challenge arises to use the process innovation of Web 2.0 didactically appropriate in the sense of an e-learning 2.0:

> In the future it will be more widely recognized that the learning comes not from the design of learning content but in how it is used. Most e-learning theorists are already there, and are exploring how learning

> content-whether professionally authored or created by students can be used as the basis for learning activities rather than the conduit for learning content.
>
> (Downes, 2005, para. 37)

Following Kalz, Specht, Klamma, Chatti, and Kober (2007), it can be stated that technology for teaching and learning purposes is never didactically neutral (cf. Kalz et al. 2007, p. 82). Regarding the participatory potential of Web 2.0 media and against the background of Kalz et al.'s observation, it can be stated that e-learning 2.0, like educational learning, can be understood as a dialogical process. Through the participatory structure of Web 2.0-based learning, knowledge is constructed in action- and production-oriented way instead of being passively received:

> And what people were doing with the Web was not merely reading books, listening to the radio or watching TV, but having a conversation, with a vocabulary consisting not just of words but of images, video, multimedia and whatever they could get their hands on. And this became, and looked like, and behaved like, a network.
>
> (Downes, 2005, para. 21, E.i.O.)

As Bildung learning, learning in the sense of e-learning 2.0 is dialogically structured. This structural analogy between Bildung learning and e-learning 2.0 enables a perspective on digitally enhanced educational learning. Using digital media in an action- and production-oriented way, Bildung learning can be made more flexible in terms of space and time. At the same time, Bildung learning and e-learning 2.0 are characterized by an ephemeral form of knowledge construction and knowledge organization: This ephemeral organization of knowledge is an effect of explorative curiosity that produces an "irregular experience": Explorative curiosity requires a departure from fixed knowledge. In static or centering thinking, something must always be fixed – be it the basic theoretical basic assumption or the identity of a biographical subject. In temporalized or decentered thinking it is the permanently changing arrangement of diverse elements in relation to each other (cf. Ahrens, 2017, p. 41).

Such decentered thinking can be conceptualized as collaborative thinking. Different perspectives are dialectically reconciled with each other, allowing new knowledge formations to emerge. Fundamental to this is a nontaxonomic structure of knowledge organization that characterizes Bildung: Thus, Bildung relies on nonlinear spaces in which forward, backward, and cross-references between heterogeneous elements create new connections, change old ones, and thus reinvent meaning in the relational structure of decentered elements via iterative actualizations in time (cf. Ahrens, 2017, p. 42, ed.). Taxonomies categorize phenomena and thus construct static structures. A

decentered thinking is determined by a dialogical openness that is metonymically manifested in the medial structure of hypertext (cf. Kergel, 2018b). Unlike the book's linear structure, a hypertextual structure allows for nonlinear jumps between references (cf. Kirpal & Vogel, 2006, p. 143). In doing so, the hypertextual structure of the Web 2.0 demands a proactive reading or form of knowledge construction which matches the medial structure of the digital sphere: The characteristics of digital, interactive, and hypermedia change the possibilities of storing, producing, organizing, and receiving content; their networking decentralizes and de-hierarchizes knowledge stocks and calls for active and critical engagement with them (Bächle, 2016, p. 68). The (dialogical) openness of hypertextual media content enables a performative construction of knowledge formations that are constitutive for Bildung learning. This process's knowledge gain lies in the infinite uncovering of new categorical dimensions that emerge in the confrontation with phenomena. Such decentered thinking is dialogical thinking. The "digital dialogue" opens up a space of distancing critical reflection, which is understood as a process.

The productive distance of a digital-based dialogue

In Greek, "dia" denotes both a distance and a course (cf. Jullien, 2017, p. 89). The distance results, among other things, from the differing perspectives that dialogue partners take on an issue: A "dialog" is the more productive if there is distance involved. If both parties say more or less the same thing, the dialogue is nothing but a monologue conducted in pairs, and the mind does not make any progress in the process (cf. Jullien, 2017, p. 89). In the dialogical process of knowledge construction, the individual gains a new perspective through the dialogue partner's perspective. By allowing the voice of the other in dialogue to provide a different perspective of reflection, the individual decenters from his or her original perspective. Accordingly, "die" denotes a path traversing space (cf. Jullien, 2017, p. 89). According to Bildung and Bildung's ephemeral structure knowledge, a dialogue is a process of bridging the distance and thus a course (cf. Jullien, 2017, p. 89). Thus, "step by step" the positions separated by a distance approach each other. The distance enables decentering, which in dialogue as a course can lead to a construction of new perspectives: Through these distances, shared knowledge is constructed (Jullien, 2017, p. 89).

Web 2.0 media such as wikis enable digitally based dialog in their hypertextual structure and polydirectional and polyphonic communication (cf. also from an empirical perspective; Kergel & Heidkamp, 2018). The "ideal of Wikipedia" (Brandt, 2009, p. 8) consists of the fact that "everyone who considers a term worth describing […] can generate a new entry" (Brandt, 2009, p. 8). According to Brandt, every entry is an invitation to dialogue and to co-write the entry (Brandt, 2009, p. 8).

Through this invitation to dialogue and the ideal situation that several authors can write on an article simultaneously, different knowledge is incorporated and compared with each other (cf. Brandt, 2009, p. 8).

In the sense of an interim conclusion, it can be stated that Bildung takes place dialogically. From a media pedagogical perspective, Bildung learning requires a media structure that enables a dialogical knowledge construction. From these theoretical reflections on Bildung learning and e-learning 2.0, didactic consequences can be drawn.

Outlook

The Bildung characteristics of explorative curiosity and self-efficacy expectation represent the normative framework of a Bildung-orientated e-learning 2.0. The Bildung characteristics thus advance to quality characteristics. In the sense of a Bildung-oriented evaluation, it is important to analyze to what extent explorative curiosity and self-efficacy expectations could be developed by the involved actors in the learning process (cf. Kergel & Heidkamp, 2018). In this alignment between

- Actual value (the actual unfolding of explorative curiosity and self-efficacy expectations in the learning event)
- and the target value

lies the media pedagogical challenge for digitally enhanced Bildung learning. A media pedagogy committed to advancing digitally enhanced Bildung learning faces the challenge of creating learning spaces and communication spaces in which actors can develop a dialogue in the sense of Bildung. Didactic strategies of e-learning 2.0 can be used to develop such learning spaces and communication spaces.

Bringing together Bildung-oriented approaches and the application-oriented strategies of e-learning 2.0 enables a synergetic merging of different pedagogical approaches to foster Bildung-orientated learning in the digital age.

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Chapter 7

Student virtual collaboration as messy entanglements of *Bildung*

Charlotta Hilli

In this chapter, I discuss student collaboration in a virtual learning environment through ideas of posthumanist *Bildung* and the cyborg metaphor. They offer analytic tools to understand the entanglements of students' being/knowing/doing for a better world. Carol Taylor has introduced posthuman *Bildung* as a dynamic process turned toward the material world that highlights the different relationships humans share with spaces, bodies, things, and other species. In the digital world, humans and machines' entanglements are well explained through Donna Haraway's cyborg metaphor. Here I discuss spatial entanglements within student collaboration in a course on *Team leadership* on the platform *itslearning*. In virtual courses, human embodied experiences are entangled with digital technology. Digital platforms support certain actions and hinder others. For these reasons, the agency of the space is essential to investigate in education. Posthumanist *Bildung* helps explain possibilities and issues when cyborgs collaborate in a virtual space like itslearning.

A posthumanist Bildung for the future?

> In the world of Bildung, the self is never a lonely wanderer but always already involved, such that the opposition between self and the world is not a contingent one but expresses a necessary relation.
>
> (Løvlie & Standish, 2003, p. 3)

In the quotation, a general description of *Bildung* is summarized that resonates well with posthumanist ideas of *Bildung*; the relationships between *the I/the Self* and *the world* are seen as ongoing, something that is already in motion. *Bildung* assumes *the I/the Self* cannot be without a relationship with the world. A posthumanist view of this relationship is perhaps less clear-cut and harmonic than many other strands of *Bildung*. The I is not a lonely wanderer as there are many human and nonhuman relationships taking shape on that journey. The posthumanist I is *entangled* with the world, extending the world to digital technology and animal companions. Humans are entangled in messy and complicated material and discursive practices with other

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species, things, and bodies. Posthumanist *Bildung* is less focused on inner processes and individual reflections and more on active, dynamic agents who are doing/knowing/being in relation to bodies, spaces, and materialities. Carol Taylor (2017, p. 432) calls it an "awareness of our becoming with human and non-human others whom we share this world" – an ethical responsibility to the ecologies we are part of. These dynamic relationships are equally important in physical and virtual spaces, inside and outside educational settings.

The relations between space and humans matter in posthumanism; the people acting in a certain space matter, but space also matters. The matter is seen as a dynamic agent that affects what happens between humans and nonhumans. The space for learning is more than a container of information; it has an agency of its own. Karen Barad (2007) uses *intra-actions* and *entanglements* from physics as concepts for the deeply entangled actions taking place in different situations – actions from within and as a part of a situation. Intra-actions and entanglements are not easily studied since they change with the researcher and phenomenon, nor are all entanglements or intra-actions equally interesting; what matters are entanglements or intra-actions that make a difference in a certain situation. People log onto a virtual learning environment where they intra-act through/with/in the digital system. Online participants share digital spaces with other people (teachers, students, and IT personnel), with nonhuman actors (quizzes, texts), and more-than-human actors (chatbots, personalized digital feedback). Entanglements in digital spaces include many agents that affect student collaboration in different ways.

Posthumanism wants to remove *the I/the Self* from its humanist, enlightened, and supreme pedestal. Instead, as Rosi Braidotti (2019) claims, it wants to include multiplicity and the multiple directions to choose between when we wonder about the future and consequences for humans, nonhumans, and more-than-humans. It questions distinctions between rational-emotional, nature-culture, human-animal, and human-machine and prefers to see them as entangled with each other (Taylor, 2017). Donna Haraway's cyborg metaphor – or entanglements of man and machine, nature, and culture – is one way to understand the messiness of being human in the digital age. As Petitfils (2015, p. 32) points out, the cyborg is an example of digital progress, of more surveillance, and control of human lives. It is a product of the past ideas, of the "assembly line," and of capitalism. In education, this fragmented or decentered digital self is important to understand for people so that they can become recentered and assess the implications of virtual life.

Digital spaces like virtual learning environments are not neutral. They are human-made; therefore, they retell some of the myths of wholeness, origin, and surveillance typical for Western culture (Haraway, 1992, 2016). Distance education can be part of a sustainable solution that offers participants

education where they live and when they have time for it at different stages of their lives (Annetta, Folta, & Klesath, 2010). Posthumanism provides tools to investigate the messiness and the materialities of distance education. For example, collaborative online writing can empower students to produce better texts together through digital tools (documents, information, and chats). It can also quell the individual writing style in favor of team consensus, forcing students to lower their writing standards, constraining their agency, or create barriers between students when technology is not working or information is missing (Hilli, 2019).

Student online collaboration is a growing research field in distance education because of the confirmed positive effects of social interactions on student engagement and cognitive achievements (Cherney, Fetherstone, & Johnsen, 2018). New digital technologies change the landscape of distance education as different forms of communication, for example, in real-time (synchronous) and delayed (asynchronous), are possible between participants (Annetta et al., 2010). Harrison (2018) claims it is essential to study the design of the space for learning as it supports certain actions and hinders others partly because of pedagogical ideas and partly because of technical functions. There is a lack of research on the role of space in education, and new theories are needed to identify pitfalls and opportunities. Posthuman *Bildung* provides analytical frameworks to do just that (Taylor, 2017).

Collaboration is rarely, if ever, studied through theories of *Bildung*, although the concept entails relationships with the world and thus the importance of relationships to other people. However, *Bildung* as a socially mediated process is not new as Stojanov (2012, p. 126) points out; social-pragmatists John McDowell and Robert Brandom see *Bildung* as humans taking part in and being shaped by social relations (socialization); Theodor Adorno sees *Bildung* as a way for human beings to become critical toward the forces of mainstream mass culture and the society they are born into. Posthumanism takes *Bildung* a step further, from socially mediated processes among humans, to a material, open, and political project to make the world better for humans and nonhumans alike (Taylor, 2017, p. 432).

In this chapter, I will entangle myself with ideas of posthumanist *Bildung*, the cyborg metaphor, and a case of student online collaboration. It means I will blur the edges between the I/the cyborg and the world to immerse myself in the ideas, the actions, space(s) to identify the messiness and the materialities of collaboration in a virtual learning environment itslearning. I will discuss an empirical case of student collaboration in higher education and address spatial entanglements with and in the virtual spaces.

Below I briefly sketch the history of *Bildung* that has led to posthumanist notions of it. The discussion continues with the promise of posthumanist *Bildung* in the digital age. After that, I will present the case for this chapter and discuss spatial entanglements of online collaboration that relate to the promise and discord of *Bildung* in virtual spaces.

Bildung – A brief sketch

The concept of *Bildung* is a German concept often translated to self-cultivation in English. In the Nordic countries, it translates to *sivistys* (Finnish), *bildning* (Swedish), and *dannelse* (Danish and Norwegian). It is a fluid concept changing with time, and it is found around the world under different names (Horlacher, 2016). *Bildung* is a never-ending personal process – open, reflective, intellectual, and moral – interlinked with culture, other people, and efforts for a better world (Uljens, 2003). Most researchers agree *Bildung* is a transformative process where the I/the Self meets the Other, which can be other people, texts, and materials that make the I/the Self expand and reach new levels of reflections (Wiberg, 2018).

The history of *Bildung* mirrors individualism to certain degrees by different thinkers. To Humboldt, the self is in constant interaction with the world, while Hegel sees the individual self as dependent on the other's mutual recognition. To the Romantics, human genius relied on relation to nature. Simultaneously, neo-humanists saw education – that is, literature, the arts, and philosophy – as essential to character-formation and self-reflection. *Bildung* has become political through critical theorists who wanted to make it possible for every human being with free will to overcome and change the conditions she was born into (Gur-Ze'ev, 2003). However, Baudrillard remained pessimistic of its transformational powers in a consumerist society, and Adorno went as far as to declare *Bildung* dead. Others have chosen a more affirmative approach.

On the one hand, John Dewey transformed it to bridge the divide between abstract theories and practical problems to be solved, and on the other, the disputes between humanities and natural sciences. The importance of human experience, seminal to Dewey's notion of *Bildung*, was closely linked to the hermeneutic method of reflecting on experiences (Retter, 2012). To Gadamer, it offered better ways of speaking about the self and the world (Løvlie & Standish, 2003, p. 19). *Bildung* has intrigued scholars of different times and places, and for various reasons, it has been an individual ideal for some. To others, it has been a political and transformational concept. Posthumanist *Bildung* builds upon the latter ideas to identify material dimensions of knowing/being/doing in the world. The transformative potential of education includes the effects humans, nonhumans, items, spaces, etc. have on each other (Taylor, 2017), which is discussed below.

The promise of posthuman *Bildung* – Cyborgs knowing/doing/being together

Modern ideas of *Bildung* are deeply entangled with ideas for education. Gert Biesta (2003) proposes *Bildung* should answer the educational questions of how to respond to, how to deal with, and how to understand the new world. To Sverker Sörlin (2019, p. 174), *Bildung* means being on the horizon of

knowledge and realizing that the horizon is continually moving. It is another way to understand *Bildung* as a process of expanding individual knowledge in relation to what is general knowledge. An openness to new knowledge and the idea of a "moving horizon" means accepting that what is known changes with time and with each individual.

Sörlin (2019, pp. 17–18) references Reinhart Koselleck's shared frame of reference (*Erfahrungsraum*) and horizons of expectations (*Erwartungshorizont*) for *Bildung*. On a societal level, a shared frame of reference is what binds people together and creates a sense of community. It makes it possible to envision different futures or horizons of expectations, which is important when people decide how to act for a better world. In a digital age, shared spaces for shared knowledge would be one way to fight against, for example, misinformation, lies, and conspiracy theories. *As* Sörlin (2019) puts it, knowing together would be an important aim for online courses to expand students' understanding of the constantly moving horizons and include visions for an unscripted future. This is in line with what Biesta (2003) and Uljens (2003) suggest for education too. The educational goal of planning for an unknown future needs to be sensitive to students with different experiences and expectations that are challenged by knowledge on a personal and societal level. Collaboration could be one way to do this in distance education.

Carol Taylor (2017) defines posthuman *Bildung* as sensitive to the agencies of other humans, animals, nonhumans, more-than-humans, and the materiality and embeddedness of human existence. Posthuman *Bildung* is about being/becoming/belonging in the world. "A posthuman *Bildung* is, therefore, nothing more or less than education as an ethico-onto-epistemological quest for (better ways of) knowing-in-being" (Taylor, 2017, p. 433). Posthuman *Bildung* means ontological, epistemological, and ethical entanglements of humans of the world, with the world, and for the world. It emphasizes the *intra-actions* humans are entangled in/with and the differences they make. Instead of dividing the content to be learned from the process of learning and from the learners, or theories from practice, cognition from emotion, posthuman *Bildung* sees them as entangled in students' "knowledging" (Taylor, 2017, p. 430). In education, course content and learning goals are examples of material agents that co-constitute material-discursive knowledge processes. Processes of Bildung are intra-action course participants take part in and are affected by in different material-discursive practices during their studies.

The cyborg reminds us of the entanglements of "the organic, the technical, the human, and the nonhuman" (Haraway, 2016, p. 262). The cyborg is the hybrid bastard of the digital age where humanity is extended/enhanced/fragmented/destabilized through digital technology – it dissolves dichotomies of mind/body, animal/human, organism/machine, public/private. It questions Truth as something fixed and forever resides only in human beings when humans and machines are so profoundly entangled (Bayley, 2018). Haraway identifies the digital age tensions and potentials through the cyborg

metaphor, which is useful in an educational context. In a digital age, communication technologies and biotechnologies recraft cyborgs' bodies, digital systems force them to act in certain ways, and discourses include or exclude those who fit in and those who are seen as outsiders (Haraway, 2016, pp. 55–60). By recoding and rewriting their bodies, cyborgs can gain control and agency over their lives – not because they want to return to innocence or dream of the garden of Eden, the cyborg never was innocent or part of the Western myth of Eden. The cyborg is fighting to claim its place in history in its words/codes, to survive in landscapes and societies that may not want to accept it. It symbolizes the cracks in the smooth surfaces that we would prefer not to see. It is the product of capitalism, surveillance, and colonialism, but it gives voice to those who are invisible, those who are not included in the grand, modern narratives of humankind. In this text, the cyborg exemplifies the good, the bad, and the ugly of student collaboration in a distance course.

In a digital space, transformations of the self can be found in interfaces, the spaces for transformations (Løvlie, 2006, p. 6). Online spaces can offer communicative spaces where *the I/the Self* transforms as students read digital texts or communicate with other people. Immediate and delayed forms of online communication can make reflections diverse and inclusive within a group of students. It implies theoretical, practical, and ethical knowledge for students to read, understand, and act in the digital space (Hilli, 2018). To Donna Haraway (1997, p. 235), the interface, or infold, is where nature meets culture. In a posthuman *Bildung* sense, cyborgs' knowing/being/doing is deeply entwined with the spaces they move in and the different agents they intra-act with.

The case of online collaboration in itslearning

This study's context was an online course on Team leadership in a Finnish university of applied sciences (June–July 2018). The course had 241 participants from different universities and disciplines. The language of instruction was English. The coaching teacher had made teams of about ten people for certain group projects. All discussion forums/threads were visible for all participants. The course content was published weekly for five weeks. Individual assignments generally had to be done during a certain week after which they closed. Other tasks, like group assignments, had more flexible deadlines.

The main tools were discussion forums and shared online documents. Most groups used asynchronous communication in the discussion forums, although some groups included synchronous group chats on social media (e.g., WhatsApp, Messenger). The course took place in the university's online learning environment, itslearning. The system was familiar to most students. The coaching teacher had weekly online office hours for synchronous support and offered asynchronous support via e-mail and the virtual learning environment's (itslearning) messenger service.

The data were three written, individual reflections on the online assignments; in the beginning, midways, and at the end of the course. The reflections were written in English, although most participants were not native English speakers. The higher education institution approved the study before the course began. The participants were informed about the study when the course started. Ninety participants out of 241 agreed to take part in it. Sixty-two participants (36 women, 26 men) turned in all three reflections (in total, 186 reflections on 68 pages).

The analysis meant a diffractive reading (Barad, 2007; Bozalek & Zembylas, 2017; Lenz Taguchi, 2012) of the virtual learning environment's collaborative processes. The reflections were read with theory and through each reflection. Reading became an act of infolding where each reflection deepened the overall understanding, constantly adding to the infold. It meant accepting that space was an agent in the material-discursive practices that co-constituted the participants' knowledge processes, their *knowing-in-becoming* (Taylor, 2017). The analysis has been discussed elsewhere (Hilli & Tigerstedt, 2020). Here I include three transcripts as examples of the data and summarize the spatial entanglements identified.

Spatial entanglements as knowledging together

The virtual space made flexible material-discursive practices possible; communication with the group members and information (e.g., course content) was available all the time. itslearning offered a shared and dynamic space to meet new people and learn new things about team leadership through collaboration. Participants had different reasons for taking the course, which were identified as intra-actions between cognition/emotion, theory/practice, and personal/professional interests and experiences.

Dynamic intra-actions shaped the collaboration through the participants' knowing/doing/being in the virtual space. The participants wanted to take part in the course anytime and anyplace. During the summer, they were busy with work, travels, hobbies, and leisure activities, which made them spatially dispersed. The course was a flexible way to gain access to relevant content. The intra-actions during the course made it possible to practice the theories learned and literally lead teams or at least identify challenges to leading teams. The asynchronous communication made it possible to follow and reflect on the discussions individually and collectively build on and extend the discussions.

> Online collaboration discussion is meaningful because it is documented, and I could track the progress of work and the activeness of each team member in the discussion. It is challenging to form the team and motivate them to work together; I was very much involved in the discussion. I was leading team 16 and had to send many messages to confirm the tasks and ask people to participate. Generally, what makes me more active in

> such a discussion is the general team activeness, clearer team objective, and higher contribution level of team members and, as a result, a better team assignment quality. I learned that one size does not fit all different team members work differently, can be motivated differently, and has to be managed differently.

Spatial entanglements as obstacles for the cyborgs

The design of itslearning was entangled with participants' actions, which negatively affected the processes of *Bildung*. Issues with the open virtual space design included too much information since most course participants were unable to identify what conversations were essential to them. The participants felt overwhelmed/confused by the amount of information in itslearning when 250 participants were adding posts every day for five weeks. The participants wanted secluded group folders to ease and focus the collaboration. In a sense, the cyborgs were looking for a secure space of their own in the midst of the flow of information – something that would help them discern their group members and the relevant information they needed.

Spatial entanglements meant delayed communication in the virtual learning environment. Flexibility in space created a disconnection in the collaboration because there was a delay in communication. It forced participants to wait for replies and respect the timetables of the group members, which is an example of how spatial entanglements hindered the transformative processes of *Bildung* by halting the communication.

The open-space design was an issue from an ethical perspective as some participants distrusted the authenticity of group members' posts. The open-learning environment made it possible to copy/paste comments from other group threads or from online sources, which was deemed as plagiarism and wrong toward the course participants.

> Discussions are great in groups, but written assignments are always about trusting the group and not being 100% sure if what they have written is plagiarized or not. I was not happy with how the course was laid up, it was all very confusing, and there were too many folders lying around.

Spatial entanglements of cyborgs as ethical considerations

Spatial entanglements were related to relationships between group members or a lack thereof. Problems with collaboration included issues with communication, lack of activity among group members, and a lack of relationships between group members. In these cases, the virtual learning environment became an interface for distrust/frustration/disappointment toward the group members' lack of engagement or unethical behavior (plagiarism), which negatively affected the collaboration.

When the cyborgs were able to establish relationships with group members, the virtual learning environment became an interface for processes of *Bildung*. Participants shared information/knowledge/personal experiences within the group and built on what others had said. They respected and "listened" to each other. This was identified as ethical intra-actions when the participants paid attention to/encouraged/trusted each other. *The I* was challenged on a personal level and wanted to transform the world for others by making the collaboration interesting and important for the group members.

> It's a great way to communicate with various people about the given topics. The discussions have included interesting insights and suggestions, that broadens my own thinking. Online collaboration in discussion forums is less meaningful, if the participants aren't active. One of the reasons for my active participation in the discussions is that it's fascinating to communicate with various people and to discuss subjects that aren't necessarily the ones discussed with my friends outside of the course or the school. It's interesting to see how they feel and respond to my posts and also how the discussion develops. I hope that I can bring some insights based on my experiences and opinions, that adds to the discussion. Also, by being an active team member, I hope that other students will get more out of the collaboration. That there are as many opinions as there are people. Also, there are a lot of viewpoints that I haven't thought of before someone has brought it up in the discussion.

Relationships within the groups were entangled within spatial and ethical intra-actions (asynchronous posts, synchronous chats). A *good online discussion* was personal and interesting on an emotional level and factually relevant, it invited others to join, and it gave credit to previous posts on the topic. Written asynchronous communication spatially supported the transformative processes of *Bildung* as it was easy to follow the discussions, reflect on posts, and build on what others had written. The discussion forum in itslearning was not ideal for all types of discussions. When decisions needed to be made within the group, the participants wanted a faster form of communication. Synchronous communication forms (chat) were more authentic and real as more emotional nuances could be included (emojis). Asynchronous communication put a strain on the group work as it was considered difficult to establish relationships with strangers this way.

The promise and discord of *Bildung* in virtual spaces

The course offered messy interfaces that challenged and supported *transformations* among the participants and spaces for *connections* and *disconnections*. Access to information and good group discussions encouraged transformative processes or "knowledge-in-becoming" among the participants. Actions

were hindered by information overload and constrained by asynchronous communication in the virtual learning environment. These are some ways to explain the co-constitutiveness of students' being/knowing/doing – "knowledge-in-becoming" – of posthuman *Bildung* (Taylor, 2017) in the interfaces of a virtual learning environment.

Space mattered for several reasons; it gave the participants access to information, communication, and collaboration – thus, it extended the cyborgs' capabilities (Haraway, 2016). The participants appreciated the flexibility to study whenever/wherever, although it created an interesting paradox. They did not share the same time frame while studying the course content, nor did they do so when they added comments online and actively took part in the collaboration. The expanding of horizons needed something to relate to, and other people's active presence in (a)synchronous discussions was one way to identify the role the interface played (Løvlie, 2006); it was an uninviting space without other active cyborgs in the groups.

Koselleck's shared frame of reference (*Erfahrungsraum*) (Sörlin, 2019) is one way to explain the entanglements with/in the virtual space. Delayed virtual communication was related to relationships, and it was seen as flexible or daunting depending on what kind of relationships was established in itslearning. When relationships between participants were not established, the cracks in the course became visible (Bayley, 2018; Haraway, 1997, 2016). Sörlin (2019) cautions that digital spaces can be individualizing and fluid without any relation to the common good. In an interface that lacked relations to other humans, the cyborgs remained separated/isolated and less able to engage in knowleding (Taylor, 2017). By reaching out to fellow cyborgs, they were trying to gain control over the virtual space and establish meaningful relationships (Petitfils, 2015) – to bridge the cracks, so to speak.

In a posthumanist view, human beings are involved in many messy and complex entanglements (Bayley, 2018). For these reasons, the future of distance education relies upon an appreciation for human/nonhuman/more-than-human agents' relationships for *Bildung* (Taylor, 2017). This study suggests that the design of the learning environment would do well to limit the amount of information in the interface, provide secluded areas for group discussions, allow for nuances in the communication (e.g., chat, emojis), and include both synchronous and asynchronous tools for communication to empower cyborgs' knowledge-in-becoming. Distance education can be a flexible solution for people on the go and at in different stages of their lives. Virtual collaboration is a good way to invite cyborgs to a shared space that includes different entanglements during a course (spatial/ethical, cognitive/emotional, theoretical/practical, and personal/professional). If cyborgs are empowered to establish and extend their presence in a virtual space, it can become a meaningful and exciting interface for *Bildung* where they move horizons together.

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Chapter 8

A conceptualization of digital bullying

A study on teachers' and pupils' perceptions of digital bullying

Lillian Gran

Introduction

This chapter investigates the phenomenon of digital bullying in schools through a study that compares interviews with teachers and pupils on digital Bildung (Gran, 2018, 2019; Gran, Petterson, & Mølstad, 2019). Digital Bildung is understood as an overall cultural, intercultural competence (Baumann, 2015), and as a continuation of the traditional Bildung concept from, for example, Humboldt (2000). The study was conducted in four different Norwegian schools and part of a digital Bildung project. The study compares 12 focus group interviews with groups of 3 pupils with 12 teachers in the same 4 technology-enriched schools (Elstad & Christophersen, 2018), resulting in 48 informants. The comparison of interviews shows inequalities between the understanding of digital bullying between the pupils and the teachers. The pupils claim that conflicts escalate with the interventions of the teachers. The teachers, on the other hand, do not give so many examples of bullying in their reflections on digital Bildung (Gran, 2019). The findings correspond with the gap found in understanding the digital Bildung of the pupils and the teachers (Gran et al., 2019). This chapter contributes to the acquisition of more research on the pupil role related to the development of democratic citizens and digital Bildung (Gran, 2019). This chapter aims to investigate the differences and similarities of the conceptions of digital bullying given by pupils and teachers. Therefore, this study's research question is as follows: How do pupils and teachers understand digital bullying? This question will be discussed using assessment for learning theory and perspectives on self-regulated learning (Black & Wiliam, 2009) in addition to Bildung theory (Dewey, 2008; Honneth, 2008; Humboldt, 2000).

The context in which this study is conducted is four technology-rich Norwegian schools (Halvorsen, 2017). Norway sets out to be ahead of the general development in this area (Kunnskapsdepartementet, 2017a). The comparison of interviews conducted with pupils and teachers here introduces a situation in which pupils are allowed and expected to use digital tools such as iPads during their school hours, provided they follow firm

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guidelines as to which software, apps, or websites they can access during the school hours. During the pupils' spare time, parents set standards (Gran et al., 2019). Therefore, this chapter calls for a systematic cooperation between the schools, the pupils, caretakers, and the society to address the phenomenon of identifying work from childhood to adolescence and into adulthood.

Methodological approach

A comparative research approach was used to examine the two different cases of understanding of digital bullying, given by pupils and teachers (Cohen et al., 2015, p. 170). Both interview cases are based on the key area of digital Bildung and were not originally intended to revolve around digital bullying; however, this was one of the effects of the interviews and one of the main concerns of both teachers and the pupils.

In the analysis of the interviews, six keywords were used to give a visualization of what the informants focused on.

To answer the question of how pupils and teachers understand bullying, the statements made in reference to the six keywords make out the frame of their understanding of the phenomenon of bullying. Bullying, digital bullying, teasing, quarrels, conflicts, and positioning, therefore construct an understanding of bullying in this study. Being aware of the phenomenon is much more complex than that in the pupil's real life. This construction is in order to analyze the statements from the interviews.

Defining digital bullying

Digital bullying is a phenomenon regularly found in young people's use of digital media (Medietilsynet, 2018). The European surveys show that 25% of the children in Norway were bullied online in 2018, compared to 31% in

Table 8.1 Informants

	School A	*School B*	*School C*	*School D*
	Elementary school Three teachers (one assisting headmaster) Nine pupils from 5th, 6th, and 7th grade	Elementary school Four teachers (one team leader) Nine pupils from 5th, 6th, and 7th grade	Elementary school One teacher (ICT responsible) Nine pupils from 5th, 6th, and 7th grade	High school Four teachers (one department leader) Nine pupils from 8th, 9th, and 10th grade
A total of 48 informants	12	13	10	13

Table 8.2 Concept frequency

Keywords[1]	*School A*		*School B*		*School C*		*School D*	
	Pupils	*Teachers*	*Pupils*	*Teachers*	*Pupils*	*Teachers*	*Pupils*	*Teachers*
Bullying	17	8	13	1	11	0	11	3
Digital bullying	14	8	8	1	10	3	12	5
Teasing	1	0	0	0	1	0	0	0
Quarrel	3	0	0	0	2	0	0	0
Conflict	1	0	0	0	1	0	0	0
Positioning	10	0	8	0	12	0	1	0

Note
[1] Asked in Norwegian in the interviews and translated here.

2010 (Staksrud & Òlafson, 2019). Staksrud and Òlafson (2019) refer to several surveys that measure experiences with bullying. These surveys show different numbers because they use different selections of informants and different[1] definitions of bullying in a research context.

Even though technology has changed rapidly during the two last decades (DeSeCo, 2005), the percentage of digital bullied youth has decreased. At the same time, the general use of social media and mobile phones has increased, and the usages of iPads or learning tablets have exploded in Norwegian schools (Krumsvik, Berrum, & Jones, 2018). In the Digital Agenda for Europe, a European Commission document for digital development, it is underlined that the European strategy is made to make the web safer for kids and refers to security online (European Commission, 2014). However, it does not outline a strategy to prevent bullying.

Bullying is traditionally defined as repetitive and aggressive behavior toward another person in which there also exists an imbalance in power (Smith, 2016). Different descriptors are used to conceptualize bullying, such as school bullying, bullying based on disability, identity-based bullying, and cyberbullying. The history of bullying shows that the word *bully* has been increasingly used since 2000 (Smith, 2016). The Swedish bully researcher Olweus identifies bullying as an old phenomenon among schoolchildren. He defines it as frequently and systematically harassing and attacking other children. The prevalence of bullying has been revealed using self-report questionnaires like the Olweus Bully/Victim Questionnaire, which asks about the frequency at which the respondent has been bullied. The roles of bully and victim were used by Olweus (1997) in defining bullying or victimization as, respectively, exposing or being exposed, repeatedly and over time, to negative actions on the part of one or more other pupils.

In Norway, Lund, Helgeland, and Kovac (2017) suggest a new public health perspective on bullying, emphasizing bullying as composed of social processes in which adults are responsible and that the importance of belonging and contributing to a common community is central to bullying phenomena. This

definition underlines the meaning of belonging and being acknowledged by other people. A study on bullying in Norway shows that bullying occurs, and it displays a paradigm shift in bullying research. Bullying is not seen as social exclusion but is expressed as a phenomenon that all children can experience in certain group contexts. The affiliation of the group is threatened (Boge, 2016).

Furthermore, Boge (2016) explains the differences in established bullying research regarding the causes of bullying. Olweus and Roland, known bullying researchers in Norway, claim that aggressive children are the cause, and Olweus explains the aggressiveness via a child's personality and upbringing. However, Orland points to social psychology and the influences of the group (Boge, 2016). In another study on bullying, a suggestion is made to address the phenomenon by combining the concepts of longing for belonging and social exclusion anxiety. In the same study, the authors argue that there is a need to conceptualize bullying based on extreme practices of persecution and exclusion that emerge in groups of children and young people. There is also a need to further develop and target the complex and dynamic movement in these processes (Søndergaard & Rabøl Hansen, 2018). One of the newer articles on bullying situations argues that educators need alternative theoretical tools when attempting to improve relations between children (Kovac & Kostøl, 2020). Kovac and Kostøl (2020) firmly point out that the educator's role is not to establish who did what, how, or why, but rather to acknowledge and respect the children's subjective experiences. For this, the teachers need a nonpartial understanding of bullying and emotional recognition of experiences that increase pupils' self-awareness (Kovac & Kostøl, 2020).

In the last decade, there has been a dramatic change in the perspectives on bullying, and the description of cyberbullying given by Kowalski (2012) shows some of the new challenges youth are experiencing. Kowalski describes the challenges of using technology. For example, Paw (parents are watching) or POS (parents over shoulder) refers to the use of computers. Today's youth would not recognize this challenge; however, they all act in digital contexts with smaller devices such as cellphones, iPads, or smartwatches. The most recent report on youth and media use in 2020 is concerned with gaming and the use of money in addition to time spent gaming, especially for boys (Medietilsynet, 2020).

Cyberbullying is a term used by Kowalski (2012) to describe digital bullying. He points out that around the year 2000, there was no need to define either cyberbullying or digital bullying. However, today there is a requirement to describe the phenomenon of bullying in digital contexts, across contexts, and in the traditional manner of bullying using physical and verbal aggression (Lund et al., 2017). Smith (2016) also confirms that cyberbullying has surfaced in the last century, while people use mobile phones and the Internet more. Cyberbullying began as text message bullying and e-mail bullying and has developed into bullying with smartphones and social networking sites, which offer new tools for cyberbullies. Smith (2016) pointed out an

essential argument that cyberbullying is more likely to be experienced outside of school but still between classmates or schoolmates. The consequence in which is pointing at closer cooperation between the homes and the schools in terms of the youth's digital actions.

Analytical perspectives in digital identity work

The theoretical framework of the study presented in this chapter is constructed from the analytical concepts of internal process, self-Bildung, democracy, self-regulated learning, and assertiveness. Internal process or the individuals' self-reflection and self-Bildung are both based on Bildung theory from Humboldt (2000), and democracy is based on the ideas on learning from Dewey (2008). Internal processes refer to the individual's inner resources, and Bildung refers to the individuals' identity development and how they are prepared to behave and act in the world around them. There is a focus on self-regulation discovered as a benefit from ICT usage in schools (Berrem, Gulbrandsen, Elgaard, & Krumsvik, 2018). Finally, assertiveness is an ability emphasized in the identity work with youth in reference to bullying. The last concept was illustrated in interviews with pupils in many statements, such as "I have a friend that…," "In another school I know that…," and "Someone in my class said…," together with the theoretical description of the concept by Honneth (Jordet, 2019).

Digital Bildung and assertiveness

The concepts of digital Bildung and assertiveness are used to discuss how the pupils and teachers understand digital Bullying; therefore, this section will elaborate on the concepts.

A literature review on digital Bildung found no comprehensive understanding of the phenomenon in schools (Gran, 2018). However, digital Bildung can be described as cultural competence that emphasizes the development of a pupil's identity, his ability to reflect, and his understanding of themselves and others in a digital context (Gran, 2018). The review on digital Bildung concludes that schools need an understanding of digital Bildung that goes beyond an instrumentalist view of learning online. Schools need to focus on developing independent, critical, and reflective pupils who can interact with others in ethical terms (Gran, 2018; Sando, 2019). The theoretical framework that can support teachers in the identity work in schools is inspired by the traditional Bildung theory from Humboldt and Dewey. Three analytical perspectives can be used in the interactions with pupils and, therefore, in digital Bullying's preventive work. The three analytic perspectives are inner processes, self-Bildung, and democracy (Gran et al., 2019). An argument for using these three analytical perspectives in the identity work with pupils is that these were discovered in interviews with the pupils in this study

(Gran et al., 2019). In addition to the three analytical perspectives, I will argue for the need to include yet another analytical perspective to address the digital challenges you meet today. This fourth perspective is assertiveness, as inspired by Honneth (Jordet, 2019), which is the individuals' ability to stand up for himself.

Assertiveness is an individual's courage to stand up for herself and to act in a social community, in the social sphere, where we interact with others, as Honneth explains it (Jordet, 2019). The individual dares to take social initiative and to interact with others. In order to do this, she needs to develop her self-respect according to Honneth's recognition theory, which is a central ability in human interaction (Jordet, 2019). In other words, the assertiveness revolves around a pupil's self-relation and how he sees himself both in interactions with others and by himself. Honneth claims that the experience of love is established on the individual's fundamental ground of emotional safety, something that will affect the individual's ability to express her own needs and feelings (Jordet, 2019). The importance of the concept of assertiveness or self-belief is that the individual with well-developed self-esteem develops an ability to stand up for their own needs, thoughts, and feelings. Only the individuals who believe in themselves and their values will dare to participate in social and cultural communities like this. In this way, the individuals develop the ability to meet others with love because they are safe in their worth and secure that it will mean something for others (Jordet, 2019).

Inner process, self-Bildung, and democratic competence

An analysis of how and why bullying occurs, Søndergaard and Rabøl Hansen (2018) describe how youth encounter other challenges related to hyper-consumerism, self-exposure on social media, and the pressure to perform. In terms of handling the new challenges of the knowledge society, the three concepts of internal process, self-Bildung, and democratic understanding are used to discuss digital bullying perspectives from the interviews. Internal process refers to the individuals' inner resources that they use interacting with other individuals in the same context (Gran, 2019). It is a human's ability to recognize internal improvement and to value his or her worth. Self-Bildung is associated with inner processes and explains human beings as motivated to seek outside themselves to understand their inner self. Self-Bildung reflects the individual's inner resources and how the individual interacts with others (Humboldt, 2000). Pupils must learn to reflect on their inner selves and become conscious of how their actions affect themselves and others. Democracy is an important notion related to pupils' learning. The Norwegian curriculum and the school mandate formulated in the regulations highlight pupils' democratic development (Kunnskapsdepartementet, 1998, 2017b). In this context, democratic competence relates to the individuals' partaking in their own lives and the development of democratic values and attitudes as a counterbalance to

discrimination and prejudices. Democracy is connected to learning by Dewey, and schools should prepare pupils for life experiences (Løvlie, 2003). Stray (2009) emphasizes the democratic task of society in her thesis on democratic citizenship. The aims of developing democratic citizenship, she explains, are equipping young people to participate in democratic life by exercising their rights and responsibilities in society. Hence, developing democratic competence is important for pupils to learn and develop their identity.

ICT and self-regulated learning

Self-regulated learning and assessments for learning are both aspects of learning that are found to be beneficial results of the use of ICT in schools (Berrem et al., 2018; Kongsgården, 2018). For several years, one of Norway's largest municipalities has already implemented an iPad for each student in all classes. In the latest report on iPad usage in the classroom, it is documented significant effects on mastering, motivation, well-being, support from the teachers, and assessments for learning (Berrem et al., 2018). However, it has not seen any improvements to bullying as a result of using iPads in the learning. Kongsgården (2018) shows in his study on technology-rich schools that self-regulated learning has built a stronger position in the Norwegian curriculum and schools over the last 10 years. The new core curriculum emphasizes both the pupils' need both the ability to learn and reflect on their learning and learning processes (Kunnskapsdepartementet, 2017b).

Self-regulation is defined in Black and Wiliam (2009) as a multi-component, multi-level, self-steering process that is used to improve pupils' cognition, affects, and actions. Relevant features for self-regulated learning are identifying tasks, planning responses, using strategies, reviewing learning, and combining these elements (Black & Wiliam, 2009). An OECD report on assessment for learning in Norway finds that pupils learn better when they are involved in their learning processes to the self-evaluation. The report also finds that the Norwegian schools' assessments for learning practices are centered on the aspects of criteria, feedback, and self-assessment (Hopfenbeck, Tolo, Florez, & El Masri, 2013), which is significant here both because of the self-assessment focus and the feedback element. Four conditions must be fulfilled before self-regulated learning can be present. These are the pupil's ability to construct his learning; the pupil's ability to control and surveil his learning while considering both cognition, feelings, behavior, and the surroundings; the pupils' ability to set goals and to govern her own learning related to aims and criteria; and the pupils' engagement in self-regulated activities, which must function as a link between the pupils and the frames for the assignments (Kongsgården, 2018). The main understanding of the analytic perspectives is summed up in Table 8.3 and will make the starting point for the discussion of the findings from the interviews with the teachers and pupils on digital bullying.

Table 8.3 Analytical perspectives in the digital identity work

	Inner process	*Self-Bildung*	*Democracy*	*Self-regulation*
Assertiveness **is pupils' ability to stand up for themselves and act on their fundamental needs both in individual and social spheres**	The internal process is the individual's ability to reflect on her inner self and be conscious of her actions and how they affect herself and others	Self-Bildung is also related to the inner processes and how the pupils can work to understand their inner selves	Democracy is a pupil's ability to understand his rights and act on these for himself and for your society	Self-regulation is the individual's ability to self-steer in terms of both cognitions affects and actions in their lives

Results and analysis

This section will present results from the interviews with the teachers and pupils. I have used content analysis to search for the pupils' and the teachers' understanding of digital bullying. This study employed a text search and a word frequency analysis conducted with Nvivo software (Nvivo, 1997).

A word frequency analysis was the starting point for this chapter. The interviews were conducted initially to find the pupils' and teachers' perspectives on digital Bildung. However, as Figure 8.1 shows, pupils and teachers in school A were the ones that talked the most about bullying. The results further show that pupils were also concerned with digital bullying. Consequently, the pupils talked more about both bullying and digital bullying than the teachers did. In fact, in School C, the teacher did not mention bullying at all. This school only had one teacher as an informant, and he did mention digital bullying. The concepts of teasing, quarreling, and conflicts are areas that were not mentioned often in the interviews.

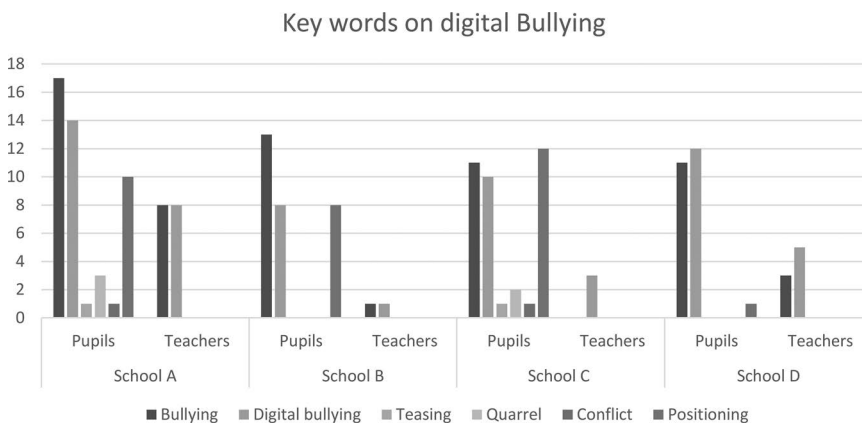


Figure 8.1 Keywords on digital bullying.

From the content analysis, five key concepts were used to categorize the perspectives of the informants. These were bullying, digital bullying, teasing, quarreling, conflict, and positioning. These make up the framework of the analysis.

Bullying

The understanding of bullying has developed from the traditional definition given by Olweus as systematic harassment or attracts against other children (Smith, 2016) to a more inclusive understanding of bullying, focusing on the environment and the relations between the pupils (Kovac & Kostøl, 2020). In this study, the pupils consequently talked more about bullying than the teachers did. There can be different reasons for this, for example, the differences in the interviews. Where I spoke to teachers one-on-one, I spoke to the pupils in focus groups of three. In this way, the pupils might have found the conversation safe enough to tell the researcher about the different experiences they had had. It must also be considered that the teachers could understand the questions on digital Bildung (Gran, 2019) better and therefore focused on the preventive section and instead of emphasizing the risks or bad outcomes that would be the result of not working with digital Bildung.

The pupils in this study talked about friends that had been bullied. Some of the pupils also mentioned episodes in which they were bullied. A few of the pupils said they had been bullied and stopped the bullies themselves by telling them to stop. They gave examples of certain pupils always commenting on other pupils' work or actions in class. One example was given in which a young woman quit school because she was bullied. Some of the pupils referred to kindergarten, remembering that someone was bullied then.

Rarely, they mentioned episodes where they had been involved in bullying others or been bullied themselves.

Unlike the pupils, the teachers did not give many examples of bullying. However, they underline that they react strictly and right away if they catch somebody bullying. However, they underlined that they react strictly and right away if they catch somebody bullying others. This might correspond to Kovac and Kostøl (2020) argument, which points out that teachers need to find out who did what to whom. Another teacher talked about hidden bullying, saying that it is like grief for the pupils, who kept it hidden if they do not want to talk to others about it. One teacher said that bullying was prevalent in school. Like Kovac and Kostøl (2020), bringing forth the interpretation of bullying situations is a potential area of improvement when it comes to how the teachers work with pupils around and in conflicts.

Digital bullying

About digital bullying, European surveys show that 25% of the children in Norway were bullied online in 2018 (Staksrud & Òlafson, 2019). The interviews conducted in this study were completed in 2017 and show that the pupils

place more emphasis on digital bullying than the teachers do at that time. The pupils are familiar with the concept of digital bullying and are aware of the phenomenon both during school hours and during their leisure time. Many of the pupils were ready with examples of people they know being bullied online. The pupils experienced a separation of home use and school use related to digital tools (Gran et al., 2019). It seems that the pupils do not regard this as two separate worlds as do teachers do. Studies show, for example, that pupils are more focused on their learning if the mobile phones are taken away and not present to disturb their learning (Fritze, Haugsbakk, & Nordkvelle, 2017).

In School B, the pupils had a particular focus on digital bullying and explained the moving of three or four pupils who had experienced bullying in their school. They even said one additional girl was about to quit when summer came because she did not feel good in school. This was specifically a focus from the 6th graders. However, both the 5th and 7th graders at School B reflected on the same views of bullying in their school. They talked about mean text messages between pupils that were dealt with and other incidents with apps such as Snapchat. Many of the pupils would send funny photos, for example, meant as teasing or humor, they said. When asked about mobile phone usage regulation, they said that they were not allowed to use them during school hours; they did have some iPads in the classroom, but not for each student. They could incidentally be allowed to use the phone for Kahoot when the teachers told them to.

One teacher said that there was no digital bullying in 1st–4th grades. However, they underlined that digital bullying was scary and contributed to actions that are not explainable. Another teacher said that the big question is on digital Bildung, which the parents brought up in the parent meeting. The teachers were also concerned with the regulations around privacy and the sharing of photos, for example. The teachers talked about parents not believing that their children would bully others. In this way, bullying could also be hidden and more difficult to reveal. One teacher talked about the importance of awareness around bullying and the movements that the children are taking in the digital spheres, which social media they attend, and how they communicate with their acquaintances, for example. Finally, one of the teachers even emphasized digital Bildung and said that it is essential to know what it is and how to raise children in the digital sphere.

Teasing, quarreling, and conflicts

Kovac and Kostøl (2020) suggest an intersubjective understanding of situations when dealing with conflicts between children. They call for educational professionals who possess the necessary skills that enable them to handle conflicts between children without focusing on who did what and why. With this, they understand bullying as a social process occurring in a larger social context as opposed to individual positions in conflicts. A few pupils in this study mention teasing, quarreling, or conflicts that they have been a part of.

Teasing is explained as pupils laughing at others or making comments, for example, during presentations in class. One example that was brought up was one pupil saying another, "Is that your best Pokémon?" Quarrels are described as incidents that can be small and be the beginning of larger quarrels or conflicts. In these matters, the pupils say they talk about it in class with the teacher. One comment from the high schools pupils shows that they do not want the teachers to get involved when there are conflicts. Two pupils said the quarrels or conflicts mostly escalated if they would resolve the conflicts.

Positioning

One of the questions that the pupils were asked revolved around positioning and power imbalances between the pupils. To make the pupils understand what the phenomenon meant, the question was often rephrased to whether they had any thoughts about popular pupils. The pupils would not answer this phrase positioning; however, they were very well aware of the popularity disparity. Asking about positioning or about more or less popular pupils would give an idea of the power asymmetry in the school environment (Kovac & Kostøl, 2020). The asymmetry in power would also give an idea about how the pupils conceived the roles. However, the roles could switch depending on time and various contexts (Kovac & Kostøl, 2020).

In reference to positioning or popularity, the pupils in the study talked about popular pupils in class and referred to quarrels that were connected to these pupils. One example was a very popular boy and at the same time a good football player. The pupils explained this as problematic; for example, this boy was generally the one to decide all the activities that would occur during school breaks. They said that if he chose football, then everybody would be playing football, and nobody would play in the forest, for example. Another element that the pupils focused on was that the popular children had the newest and coolest possessions. These could be digital tools or even smaller things like a spinner. One pupil reflected back and said that she was a little popular in the 2nd grade, but that she is not anymore. Some of the pupils described this as a phenomenon both among girls and boys, and that some were more popular than others. By investigating positioning between pupils, this might be an area where the pupils can discuss their relationships to make the pupils more self-aware and stand up for themselves.

Discussion and findings

This chapter focuses on how pupils and teachers understand digital Bullying. The teachers would know what was meant by this phenomenon. Their answers were related to both parents' attitudes toward bullying online and the need for more awareness about bullying in schools. Besides this, they did not have a definition or clear opinion on what bullying is. On the other

hand, the pupils were well aware of bullying in schools and gave quite a few examples of others they had heard being bullied. Some of the pupils even revealed that they had experienced digital bullying or traditional bullying. In this discussion, the analytical perspectives of assertiveness, internal process, self-Bildung, democracy, and self-regulation are used as guidelines to explore the informants' statements.

Inner process and self-Bildung

From a theoretical perspective, internal process and self-Bildung are abilities that an individual needs to develop his identity (Humboldt, 2000). The individual's inner processes will help him recognize his improvement and contribute to a positive perspective of his worth. The pupils in this study talk about other pupils who have moved away because of bullying, although others say that they stopped bullying themselves. This shows the differences in the pupil's beliefs in their abilities to handle conflicts or unpleasant experiences. In particular, the high-school pupils referred to conflicts and bullying episodes that they would rather solve themselves than let the teachers become involved. This is different from the middle school (5th, 6th, and 7th) pupils, who would rather talk in class about what had happened together with the teacher and solve it together. When it comes to the older pupils, they have a greater awareness of how they can use their ICT tools. Some of the pupils mention hacking and programming, but mostly they use their phones and iPads for gaming, social media, videos, or talking to friends. It seems like they all agree that the ICT tools are for entertainment and fun. The pupils explain digital bullying in this study regarding hidden bullying, direct bullying, and indirect bullying. Something that requires the ability to stand up for yourself and reflect on your own identity in the sense of Bildung.

Democracy

As a counterpart to bullying, democratic understanding is important to each of the pupils in order for them to stand up for themselves. Democracy and the Bildung processes are both values that are more emphasized in the renewal of the curriculum in Norway (Kunnskapsdepartementet, 2017b), adding interest to the results of this study. The pupils were not asked about democracy directly and did not mention it themselves. However, they did not have an understanding that their meanings or ideas were taken into consideration when decisions were made in reference to ICT and learning. As revealed in the interviews, in regards to digital Bildung, the students described a space between representing a time and possibility that neither the parents nor the school educators control (Gran et al., 2019). One pupil in the high school was clear on this when she said that the pupils' council had cooperated to tight with the school leaders when they agreed not to allow the use of cell phones

inside the school. She also gave an example of how they could avoid the regulations by, for example, bringing their computers to school; this way, the teachers did not have any control over what kind of programs they would be used during the breaks. In another school, 7th graders also gave an example on how to go around the rules when they were not allowed to use the cell phones in the school 'if we have an important phone call to make, we just go into the woods where the teachers can't see us.' Democratic aspects should be part of learning, and democratic Bildung includes giving pupils the skills to prepare for something that they will meet later in life (Dewey, 2008).

Self-regulation

For learners to self-regulate their learning, they need to be quite skilled and self-structured. Self-regulated learners learn on their own, and they are motivated to acquire both knowledge and strategies to learn more (Hopfenbeck, 2011). Most of the pupils in these interviews did not talk about their learning or how they would plan or organize their learning. Neither did the teachers describe the pupils as being able to reflect on their own learning or choose which learning strategies they would benefit the most from. In comparison, a report from one of Norway's biggest municipalities shows that self-regulated learning as part of assessments for learning is one of the benefits of giving each student an iPad for use in school (Berrem et al., 2018). Kongsgården (2018) shows the connection between self-regulated learning and assessments for learning and underlines that the feedback given to the pupils during learning should be supportive and with the intention to motivate the pupils. None of the pupils nor the teachers focused on self-regulation or the pupils' role in their learning. They talked about social competence and preventive work regarding bullying, and they also referred to strict rules if they saw pupils being bullied. However, they did not mention the pupils' role that can be strengthened to help them become actors of their own lives (Nordahl, 2018).

Self-awareness and self-confidence

Assertiveness or self-awareness and self-confidence concerns a pupil's ability to stand up for herself and act on her needs. Some of the pupils in this study displayed self-confidence when they explained that they stopped the bullying themselves. The pupils talked about how pupils are more popular than others. This phenomenon is quite familiar for the pupils; however, this is not something they talked about in class or that the teachers dealt with. The traditional definition of bullying from Olweus (1997), the asymmetry of power was present. This could also be related to the partaking in being popular or not, or, like one of the pupils said, she had been popular for a while in 2nd grade but was not anymore. With an individualizing approach to bullying, it is understood as an effect of personality that is inherent to specific

individuals (Søndergaard & Rabøl Hansen, 2018). Meanwhile, a more social, inclusive perspective on bullying challenges the traditional roles of being a victim or a bully (Kovac & Kostøl, 2020; Lund et al., 2017).

Concluding remarks

The interviews in this study show that pupils and teachers understand the phenomenon of digital bullying in different ways. First, the pupils seem to experience more bullying and digital bullying than the teachers see or are aware of. Second whilst the teachers talk about the prevention of bullying and how they work to fight it, it seems like the pupils have more concrete episodes to refer to. Third, the interview points to a difference in how the pupils prefer to handle bullying, conflicts, or episodes online: Whereas the teenagers preferred to handle this on their own, the pupils in the lower grades wanted the teachers to talk more about the incidents and handle them in the class communities. Fourth, the study finds that the pupils are aware of the positioning in between pupils and explains it as with some pupils being more popular than others. This is a phenomenon that the pupils mentioned in relation to both bullying and digital bullying.

Theoretically, this study is supported by the idea of assertiveness or self-confidence within the pupils (Jordet, 2019). The pupils who are aware of their inner processes and can express themselves and stand up for themselves seem to handle both traditional bullying and digital bullying better than others (Humboldt, 2000). When the pupils learn about the world and at the same time reflect back to understand themselves, they have an advantage in both digital and physical life. By regulating their learning, contributing to having an active role in their own lives online and in the real world, they are more likely to become digital citizens. The interviews also show that pupils find it easier to talk about a friend, a classmate, or someone they know, instead of relating the episodes to themselves.

Note

1. Staksrud and Òlafsen refer to these studies related to disagreement on defining bullying: Kofoed and Staksrud (2019); Menesini et al. (2012); Olweus (2012); Wolak, Mitchell, and Finkelhor (2007); Ybarra, Boyd, Korchmaros, and Oppenheim (2012).

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Chapter 9

Bildung-orientated learning in practice – An e-learning criteria checklist

Birte Heidkamp-Kergel & David Kergel

Introduction

The contribution provides a didactic operationalization of learning theory approaches like constructivism, connectivism, and a Bildung-oriented learning theory.

Following a presentation of the learning theoretical approaches, methodological considerations of didactics are discussed.

Based on this, an e-didactic criteria checklist is presented. The focus will be on a didactic model that combines approaches of constructivist didactics, connectivist didactics, and Bildung-didactics.

Based on this e-didactic criteria checklist, teaching-learning scenarios can be designed, implemented, and evaluated.

How teaching/learning scenarios are structured depends on the understanding of what is to be taught and learned within the respective scenario. Here learning theories are an important point of orientation.

Based on this epistemological approach, it is possible to identify basic learning principles that result from learning theoretical-founded positions. Thus, it is possible to develop practice-oriented approaches to learning. Dalsgaard (2005) has pointed out this connection between reflections on learning theory, the learning principles derived from them, and the understanding of the learner in educational – or rather didactic – practice:

> A learning theoretical approach is developed on the basis of a philosophical understanding of knowledge and learning. A learning theory can be defined as a conception of the individual, the world, the individual's relation to the world, and knowledge. Analytically, learning principles can be divided into the form, content and relations of a learning environment. The concept of form describes the organisation of the students' work; how do the students work with the subject matter? Content describes organisation of the subject matter; what are the students working with? Finally, the concept of relations describes the relationship between the participants (teachers and students) in the learning environment and their

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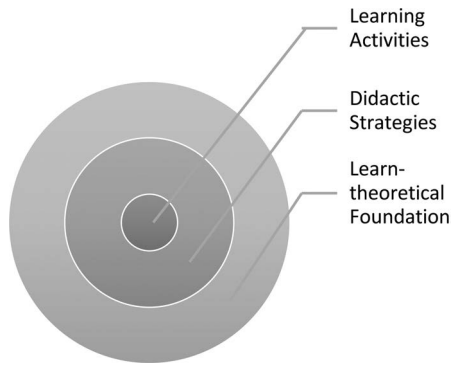


Figure 9.1 Visualization of the relation between learning theory, didactic (values) decision/ principles, and teaching-practice.

> respective roles. Learning principles can be defined as an approach to form, content and relations of the learning environment.
>
> (Dalsgaard, 2005, para. 2)

Learning theories provide models to describe learning processes.

The underlying assumptions about the end of learning and its location in teaching/learning processes represent significant differences between the learning theory positions which are also reflected in different elements of teaching design.

From constructivism to Bildung-orientated learning theory

Constructivism

In the following, constructivism and connectivism, as well as educational theory, will be presented as learning theory foundations of contemporary learning in the digital age.

- Constructivist-oriented learning theories are based on a redefinition of the "individual/reality" relationship. According to constructivist-orientated learning theories, the learners no longer internalize objectively given structures. Instead, knowledge of the world and reality is theorized as a construct. The basic idea of constructivism is to understand theories as constructions. That also means an accentual shift from "world knowledge" to "self-knowledge." A constructivist understanding of learning assumes that structures of meaning, the logical arrangement of the world, and the production of causalities are all constructs that are generated in the course of learning processes. It is, therefore,

> not about the internalization of objective structures, but about a process of ordering the world, which can be regarded as an independent (constructive) achievement of the learner. The development of constructivist approaches leads to social-constructivist approaches. According to social-constructivist approaches, social dynamics are additionally elaborated inside the framework of constructivist acts of knowledge production (see Gergen, 1994; Gergen & Gergen, 2009). Cognition is not considered as an isolated, auto-referential process of an isolated individual who is learning for themselves alone. Instead, learning takes place as an intersubjective process of cognition. As members of a learning group, learners try to reach an understanding of the learning content together.
>
> While knowledge is often thought to be the property of individuals, a great deal of knowledge is both produced and held collectively. Such knowledge is readily generated, when people work together in tightly knit groups, known as "communities of practice" [...] organizational knowledge is inevitably heavily social in character.
>
> (Antonelli, 2000, p. 91)

A constructivist-oriented understanding of learning is, therefore, characterized by the fact that learners are no longer assumed to internalize objectively given structures. According to the constructivist epistemological premise, world knowledge and reality is a construct. This construct is an effect of learning processes. In other words, constructivist learning is not a matter of internalizing objective structures. Constructivist learning is a process of ordering the world that can be regarded, according to socio-constructivist approaches, as an independent (construction) achievement of the learner in the social context.

Connectivism

Siemens' initial consideration is that learning opportunities that arise from the Internet cannot be adequately understood by "classical learning theories" such as behaviorism, cognitivism, and (socio)constructivism. It is, therefore, necessary to formulate a learning theory for the digital age:

> Behaviorism, cognitivism, and constructivism are the three broad learning theories most often utilized in the creation of instructional environments. These theories, however, were developed in a time, when learning was not impacted through technology. Over the last twenty years, technology has reorganized how we live, how we communicate, and how we learn. Learning needs and theories, that describe learning principles and processes, should be reflective of underlying social environments.
>
> (Siemens, 2004, para. 1)

According to Siemens, from a learning theory perspective, connectivism enables description of the interaction processes made possible by the Internet. One focus of connectivism is therefore on the decentralized possibilities that the Internet opens up for learning contexts: "Knowledge, that resides in a database, needs to be connected with the right people in the right context in order to be classified as learning" (Siemens, 2004, p. 5). The basic idea is that learners dock or "connect" to digital learning communities (e.g., in wikis, MOOCs, chat rooms, etc.). This connection process is driven by the learning needs: "In Connectivism, learning occurs when a learner connects to a learning community and feeds information into it" (Şahin, 2012, p. 442). In the context of connectivism, learning is always self-directed learning and based on the "freedom of the learner." This "freedom of the learner" allows the individuals to develop knowledge by following self-determined learning pathways. The freedom of self-directed learning is made possible by the decentralized structure of the Internet.

> But this is precisely where there is a harmonious join because connectivism, with its deliberate focus on the here-and-now reality of how digital networks support new forms of connections, social relations, and dialogue, provides a sociotechnical frame or set of creative constraints within which contemporary social constructivist activities occur.
>
> (Ravenscroft, 2011, p. 144)

Ravenscroft's "socio-technical" description of learning connects the many-to-many structure of the Internet with flexible learning strategies.

Bildung-orientated learning theory

Bildung-orientated learning theory originates from the so-called integrative Bildung research (cf. Kergel, 2018, 2019). Integrative Bildung research is based on an interdisciplinary combination of Bildung theory and social science methods. The central Bildung-theoretical concepts of "power" and "freedom" are transferred to the sphere of empirical research. This is made possible by constructing conceptual equivalencies. In the course of this, the term "explorative curiosity" is identified as the equivalent social science term of the Bildung-theoretical term "power." The term "self-efficacy" is defined as the social science term equivalent to the Bildung-theoretical term "freedom."

From the perspective of education theory, "power" refers to the self-propulsion that every human being possesses.

> Man's entire external activity is nothing but the striving against futility. Simply because both his thought and his action are not possible except by means of a third element, the representation and cultivation of something

> that is actually characterized by being non-man, that is, world, he seeks to grasp as much world as possible and bind it as tightly as he can to himself.
>
> (Humboldt, 2000, p. 58)

To unfold power, man has to deal with the world in an active way. From the perspective of education theory, power describes the self-drive that every person possesses:

> However, because sheer power needs an object on which it may be exercised and pure form or idea needs a material in which, expressing itself, it can last, so too does man need a world outside himself.
>
> (Humboldt, 2000, p. 58)

The goal and purpose of this process is self-development, which manifests itself in increased knowledge and ability, which leads to increased understanding:

> From this springs his endeavor to expand the sphere of his knowledge and his activity, and without himself being clearly aware of it, he is not really concerned with what he obtains from the former or what he achieves outside himself by means of the latter, but only with his inner improvement and elevation, or at least with the appeasement of the inner unrest that consumes him.
>
> (Humboldt, 2000, p. 58)

Exploratory curiosity can be understood as a manifestation of power. In the confrontation with the world, the individual unfolds powerfully. Exploration, or explorative curiosity, is manifested in curious, exploratory behavior toward the world (cf. Gibson, 1998); without a form of exploration, cognitive and emotional development of human beings is not conceivable. The development of power requires freedom: Power develops in or through freedom.

Freedom is, in turn, represented by the fact that the individual is not exposed to the world. Emotionally, freedom is expressed in the fact that the individual can influence the world. Against the background of such an understanding of freedom, Bandura's concept of self-efficacy can be taken up. Self-efficacy can be defined as the subject's conviction that appropriate behavioral outcomes can be achieved in a situation:

> The strength of people's convictions in their own effectiveness is likely to affect whether they will even try to cope with given situations. At this initial level, perceived self-efficacy influences choice of behavioral settings. People fear and tend to avoid threatening situations they believe exceed their coping skills, whereas they get involved in activities and

> behave assuredly when they judge themselves capable of handling situations that would otherwise be intimidating. Not only can perceived self-efficacy have directive influence on choice of activities and settings, but, trough expectations of eventual success, it can affect coping efforts once they are initiated.
>
> (Bandura, 1977, p. 193f.)

The individual experiences himself as "self-effective." Based on this self-efficacy experience, the individual develops self-efficacy expectations. Exploratory curiosity and self-efficacy expectations are Bildung characteristics.

The interaction of power and freedom also represents the ethical dimension of education: In the interwovenness of Bildung, power, and freedom, Humboldt develops a normative conception of human development, with freedom at its center (cf. Zöller, 2010, p. 184).

Bildung-orientated didactics is characterized by the use of didactic strategies that are designed to enable the development of self-efficacy expectations and explorative curiosity in social contexts during the teaching/learning process. Consequently, Bildung unfolds in a social context. This social context can be described as a Bildung space, or space of Bildung. Bildung spaces represent a social structure or "constellation" in which "Bildung-dynamics" take place, in other words, a place in which actors interact so as to develop exploratory curiosity and self-efficacy expectations among the integrated actors.

Bildung-oriented didactics can be analyzed as a form of socio-constructivist didactics based on Bildung theory. In the course of socio-constructivist learning, the actors involved in the learning process would have to develop curiosity and self-efficacy expectations (so-called Bildung-experience).[1] A Bildung-oriented e-didactics has to didacticize the use of (digital) media in such a way that explorative curiosity and self-efficacy expectations can develop. For example, this development can be through the use of participative, collaborative e-tools in teaching/learning scenarios. The use of such e-tools can facilitate dialogical communication processes.

From learning theory to e-didactics

Learning theories can be understood as a methodology of didactics. By linking didactics to learning theory, it is possible to provide a scientific foundation for didactic models. Thus, didactics deals on a scientific basis and in a comprehensive sense with all questions of teaching and learning (cf. Terhart, 2015, p. 73).

As a method, didactics is defined by its practical relevance and is founded on "methodological," or learning theory, reflections. In other words, teaching/learning activities and the epistemological understanding of learning are interrelated. Theoretically, this relationship is reflected

in a "didactic view of man." However, a didactic view of man "cannot […] be instructed and controlled from above. Everyone has to find his way; everyone has to find his own decisions by preferring one way or the other, one perspective or the other" (Reich, 2012, p. 21, translation David Kergel).

This interlocking between theory and practice allows didactics to become more than a pure application technology:

> In Europe, and especially in German-speaking countries, the didactic design is linked to the education of the Enlightenment. Initially, Wolfgang Ratke (1571–1631) used the term didacta to describe the qualification of teachers. Enlightenment education is characterized by the strong accentuation of the so-called 'gift of reason.' As critical citizens, people should give themselves reasonable laws instead of being governed by church and king. In order to uncover the potential of reason, adolescents should practice independent thinking and judging. Most of didactic models are in this tradition. When we talk about e-didactics in the following, we are talking about the tradition of enlightenment education and humanistic didactics.

Consequently, didactic strategies cannot be used as a recipe to achieve predefined goals. However, this impression is often given by "didactic books for teaching practice." In such books, didactics is presented as a recipe-like tool for mastering teaching/learning situations. This prescription form is increasingly being criticized: Gruschka, for example, problematizes a "descientificization" of didactics (cf. Gruschka, 2012, p. 67). According to Gruschka, the last few years showed increasing thinning literature of the discourse on didactics. Didactics no longer serves as a self-understanding discourse of teaching and learning in theory and practice. Instead, didactics presents concrete strategies to implement learning scenarios in the simplest possible way. Leading constructivist didactic theorist Reich (cf. 2009) states a "crisis of didactics." Reich problematizes a loss of substance and theoretical innovation in didactics. This loss of substance equally challenges didacticians, teachers, and students in the field of practice.

In contrast to "didactic recipe books," didactics as an epistemological practice forces all participants into reflection processes. According to Reich, teachers have to develop a conception of man. With the decision for a specific, content and relationship-oriented approach in teaching and learning processes, didacticians decide for certain values. This decision for values refers more or less explicit to a conception of man (cf. Reich, 2012, p. 21).

Based on these considerations, an (E-)Didactic Criteria Checklist will be introduced. This (E-)Didactic Criteria Checklist can be used to develop theoretical founded didactic strategies.

E-didactics – A criteria checklist

Despite the criticism of recipe-based didactic strategies and the need for theoretical depth of didactic models, the transfer into pedagogical practice remains a central challenge. To meet this challenge, a theoretically and empirically based "e-didactic criteria checklist" has been developed (cf. Kergel, 2019; Kergel & Heidkamp, 2015).

Teaching-learning experiences show that no template/recipe guarantees the success of learning. However, it is possible to identify (learning) theoretical-founded guidelines which usually make it easier for teachers to develop learning scenarios and which support learners to carry out their learning process successfully (cf. Reich, 2012, p. 239; Kergel & Heidkamp, 2015).

The following criteria can be used as orientation points for the design of (socio)constructivist and, subsequently, connectivist and Bildung-oriented teaching/learning scenarios. Against the background of the openness of (socio)constructivist learning, such criteria can be understood more as a heuristic framework.

Constructivist criteria

Dimension "structuring of the learning space"

- Interaction possibilities: Which interaction possibilities are provided by the spatial infrastructure – e.g., are there group tables, retreat possibilities, a digital learning space?
- Transfer competence: Are there occasions for meta-reflection via e-portfolios, for example? Are skills and abilities promoted to be able to apply acquired knowledge to other challenges?
- Authentic learning: Can the learning-challenge/learning-task be applied within and with the real world/lifeworld?
- Individual learning: Can learners use the methods according to their preferred learning style?

Dimension "self-directed learning"

- Action-orientation: Can learners influence the learning-situation to experience themselves as actors with the power to act?
- Production orientation: In the course of their learning process, do learners produce products that reflect the learning process?
- Self-directed construction of learning paths: Can problem-solving strategies developed by the learners be tried out, modified, and, if necessary, falsified?
- Error culture/constructive criticism: Are teachers "learning guides" when problems, challenges, or comprehension difficulties arise in the self-directed learning process?

Dimension "dialogical communication culture"

- Dialogicity: Which (dialogic) interactions are possible through the learning challenge?
- Dialogical recognition: Is a dialogical, appreciative, and friendly communication atmosphere provided?

Connectivist criteria

- Collaborative use of decentralized knowledge resources: Does learning take place in different "nodes"? Do learners make use of different knowledge resources in a decentralized and collaborative exchange and bring these different knowledge resources together in a collaborative learning process?
- Different learning channels: Are different learning channels offered?

Bildung-orientated criteria

Dimension "Bildung-characteristic experience of self-efficacy"

- Appropriate learning challenges: Do the given learning challenges allow differentiation so that different levels of difficulty can be addressed? Are the learning challenges flexible so that they can be adjusted to the individual competence level of each learner?
- Meta-reflection: At what point can the learner reflect on their learning experiences?
- Learning context: Is a participative or action and production-oriented learning made possible, whereby the learners can experience themselves as self-effective?
- Transparent structures: Are there clear, transparent structures that define the learning space? (Through these transparent structures, the subject can unfold his learning beyond authoritarian influences from outside.)
- Learning support: Is there a positive reinforcement of learning achievements?

Dimension "Bildung-characteristic explorative curiosity"

- Active co-construction of the learning challenge: Can learners contribute their intrinsic cognitive interests into the learning challenge?
- Integration of intrinsic motivation: Is there an opportunity for participative or action and production-oriented learning which includes the intrinsic, explorative curiosity of the learner?

Conclusion

The criteria listed in the checklist can be applied when designing constructivist teaching/learning scenarios. Furthermore, by comparing the criteria which are formulated in the didactic framework model with the concrete, didactic

strategies of a teaching/learning scenario, this scenario can be evaluated. The concrete teaching/learning scenario can be examined to see whether it can be assigned to the didactic structure according to a (socio)constructivist, connectivist, and Bildung-oriented didactics.

Note

1. "Bildung-experience" is the experience of the dialectical interwovenness of explorative curiosity and self-efficacy expectations.

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Section C

Online teaching and learning in times of crises



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Chapter 10

Digitalization of teaching and learning

Practical insights after the Covid-19 transition

Torsten Niechoj

Introduction

The Covid-19 pandemic marked a transition in digital teaching; not in terms of new tools or pedagogical concepts but in terms of experience with digital teaching on a broad scale. In a short while, higher education had to adopt digital learning processes because of the requirement for "social distancing." This contribution highlights challenges and achievements in a subjective way, based on my own practical insights during the pandemic. Empirics is limited to three modules of a degree program in business studies. Against this background, four major findings can be identified. Firstly, the rapid transformation toward digital learning leaves a significant amount of students behind, but others benefit from the increase in flexibility and self-organization digital learning provides. Secondly, collaboration among students is essential for the learning process but has to be organized. Thirdly, tools that resemble traditional forms of teaching are well received; new forms of teaching and learning that increase collaboration and interaction but also workload for students are less accepted. Fourthly, digital teaching fosters the already existing process of work intensification, dissolution of boundaries of work, and an increase in multitasking for the teaching staff.

Digital teaching and learning – as the use of digital technologies like e-books, videos, cloud-based learning platforms, or internet-based live polls – was partly used in universities before 2019 but gained massively in relevance due to the Covid-19 pandemic that then hit societies and thus also higher education. "Social distancing," or to be more precise physical distancing to contain the spread of the virus which changes the way people interact, was an external shock to education systems around the globe because it transformed in a short period of time the way communication and thus teaching and learning took place in higher education.

In order to figure out how the SARS-CoV-2 outbreak (Coronaviridae Study Group, 2020) changed interaction between teaching staff and students and consequently the learning process, this contribution exemplary describes my experiences with new concepts of teaching in a German University of

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Applied Sciences during the pandemic. I have to briefly elaborate on the specific conditions of the German education system and the tools and capacities available for digital teaching in this system to be able to depict what of my experience might be generalizable. This report is partly based on a survey I did with students of three of my courses.

The remainder of this contribution continues in Chapter 2 with a brief description of the university system in Germany and of the university, I am located at to provide some context. Then, Chapter 3 delves into the didactical concepts of the modules I transformed into digital modules during the Covid-19 pandemic. Chapter 4 provides the results of a survey among the students of my courses. Chapter 5 discusses these results before Chapter 6 concludes.

The context

In Germany, there are two types of institutions of higher education, universities, and universities of applied sciences. Entry requirements differ, universities require more years of school and a higher qualification. Typically, universities of applied sciences focus more on practical competencies and applied research, offer a better staff-to-student relation, and are smaller than universities. Both types offer the same Bachelor and Master degrees; PhDs are possible at universities of applied sciences but rare. In the case of universities, the teaching workload ranges from eight to ten semester hours plus committee work, supervision of students, research, organization of academic working groups, and more. Universities of applied sciences have a teaching workload of 18 hours per semester; often supervision of students is recognized as workload which typically reduces teaching workload by up to three semester hours. Other reductions of the teaching workload, e.g., as dean, head of examination board or in case of externally funded research projects, are possible in case of both universities and universities of applied sciences. There are two semesters and 12–16 weeks per semester.

Traditionally, teaching at German state universities is on-site teaching, taking place in lecture halls, seminar rooms, and laboratories. Only one state university in Germany, the FernUniversität Hagen, is since 1975 through and through a distance learning university which offered courses originally as printed resources and nowadays offers also online study materials, although on-site events were and are used, too. Nevertheless, many universities have used digital tools like hardware-based audience response systems, online courses, recordings of lectures, and especially electronic learning platforms for years but the focus was on supporting on-site teaching, not replacing it. As a result, technical infrastructure and also e-learning centers with special expertise in maintaining tools and supporting teaching staff didactically have existed before the pandemic although they did not dominate university life.

This is also true for my university, Rhine-Waal University, which is a university of applied sciences. In February 2021, more than 7,000 students from 126 nations studied at this university, among them 53% international students (Rhine-Waal University of Applied Sciences, 2021 and personal communication of Rhine-Waal University's controlling department to the author). Seventy-five percent of the degree programs are taught in English, 25% in German (*ibidem*). I am involved in two degree programs, both English-speaking, International Business Administration (Bachelor) and International Management and Psychology (Master). Per year, I teach seven different modules covering micro- and macroeconomics, international economics, economic and social policies, paradigms in economics, political economy of European integration, behavioral economics, and academic writing, besides coaching and supervision of students, academic self-governance and research. Cohorts in the BA program start in the first semester with around 80 students and in the Master program with 30 students. Three exam phases are offered per year; all exams are offered in all three phases. Formative assessment is not impossible but also not promoted by exam regulations. An exam period for midterm exams does not exist but project work and assignments allow the teaching staff to grade contributions by students before the final exam phase.

Since the foundation of the Rhine-Waal University in 2009, it uses as electronic learning platform Moodle (2021), which is widely accepted and deployed to upload slides and exercises in electronic form, to make announcements and to manage the submission of assignments, including an automatized check for plagiarism. For many years and for most of the modules, this seemed to be sufficient for my purposes. However, one of the courses I teach on a regular basis is special in the sense that often students are not on site when I teach the course. The module in question is a workshop on academic writing for Bachelor students of the seventh semester in order to brush up their knowledge on, e.g., referencing, structuring a thesis, and developing hypotheses for their final exam, the BA thesis they write during this seventh semester. Usually, I offer it as an intensive course before the lecture period of the seventh semester. However, some students are still abroad for a semester in a foreign university or are doing an internship they are obliged to take in the sixth semester. Moreover, although the workload of this intensive course is 60 hours on-site plus additional 90 hours for preparation and assignments, more time for questions and individual coaching always comes handy. Against this background and previous experiences in the late 1990s with an HTML-based presentation of teaching material, my first idea was to enrich the existing on-site seminar with interactive online content to reduce the required time on-site and/or to have more time for personal feedback and specific questions. In a first attempt in 2017, I developed with support of the local e-learning center a H5P-based online unit students could do at home. It consists of quizzes, dialog cards, matching exercises, and more but also makes use of open questions. However, it substitutes only a few hours

of on-site teaching. Feedback from students of this module showed that the online unit was on the one hand a welcome change from the typical teaching routine but on the other hand graphical presentation and technical level were assessed as below their standards, set by user interfaces and style of presentation of Facebook, WhatsApp, and so on. Furthermore, it caused additional workload for me not only for the creation of the online unit but also because I felt obliged to give individual feedback to the open questions of the online unit and I used the time in class to provide individual coaching for students. It goes without saying that it did not solve the problem of non-attendance of some students because the online unit did only cover a fraction of the whole module.

I was thinking about a further relaunch of this module – which should focus on interactive videos plus additional written and/or interactive contents that resembles more the regular teaching flow of inputs, exercises, and discussions – when the Covid-19 pandemic hit the world. On-site teaching and, for most of the time, on-site exams were no longer possible in the summer term 2020 and forthcoming semesters due to hygiene regulations.

Didactical concepts and structure of modules

Due to an exceptional reduction of teaching load of 22 semester hours because of authorized time for research and overtime in the past, I taught only 14 semester hours and thus 3 modules in a degree program for BA business students plus additional minor teaching and coaching responsibilities during summer term 2020 and winter term 2020/21. The only module that already included a significant amount of online content, the module on academic writing, was not part of my teaching responsibilities during the pandemic. Table 10.1 provides an overview of the three modules.

The lecture in *Economic and Social Policies* was accompanied by two parallel exercises which were taught by a lecturer. Usually, the semester lasts up to 15 weeks; depending on potential holidays, however, both semesters started late due to the pandemic which resulted in 12 or 13 sessions per semester.

In the modules of the first two semesters, which I teach, predefined learning objectives and presentations of canonical knowledge that should be memorized by students and practiced afterward in exercises dominates. The disadvantages of such an approach are obvious. It defines students as passive recipients and thus undermines motivation and creative and critical thinking. There are, however, reasons for such an approach. Often the large number of students renders other forms of teaching difficult and/or very time consuming for the instructor. Moreover, in each discipline, a certain amount of canonical knowledge – or what the majority of the discipline assumes to be canonical – does exist, and students need to know this in order to be able to identify alternatives and to be able to communicate with the mainstream of their discipline. For sure, I enrich such a teaching concept with interactive

Table 10.1 Overview of modules (own depiction)

Module	*Semester*	*Typical number of enrolled students*	*Contents*	*Course type and workload*
Economics	1st semester BA	≈ 80	Introduction to micro- and microeconomics	Lecture: 2 semester hours per week, 2 parallel exercises à 2 semester hours
Economic and Social Policies	3rd semester BA	≈ 60	Evolution of the welfare state and social policies, market system, regulation, and government policies	Lecture: 2 semester hours
Political Economy of European Integration	5th semester BA	≈ 25	European integration and economic policies, growth models of countries in comparison	Seminar: 4 semester hours

elements, working groups, student presentations, experiments, and so on but still this form of teaching amplifies a consumer habit.

Learning is, however, an active process of selecting the right methods to solve problems and to deal with complex situations. It is based on collaboration, not only cooperation with others and a definition of situation and problem by the learner. The teaching staff should aim at offering guidance and serving as a coach and supporter. Thus, the learning process does not follow a predefined path but is open to the individual activities of the learner. Approaches to teaching based on such a perspective of learning require more individual feedback and openness to the specific learning progress of the students. Moreover, interaction between teacher and learner is essential. From my point of view, such an approach in the context of university teaching faces two main obstacles: firstly, classes with a number of students larger than around 20, and, secondly, students without a proper training level in methods and a basic knowledge of the discipline and a certain intrinsic level of motivation. In my opinion, an adoption of teaching methods based on this perspective requires enough time to give feedback to the students in smaller groups or on an individual basis to take into account the differences in learning progress. Furthermore, it requires that students are to a certain degree able to organize themselves and are used to certain learning tools and have a basic understanding of stylized facts which make it possible to conceive the situation and to formulate (and potentially solve) puzzles. Hence, depending on the amount of participating students and their capabilities and past

experiences I use different didactical concepts for the modules I teach and apply step-by-step more elements of cognitivist/constructivist learning theories the higher the semester is. Such a step-by-step approach, from semester to semester but also within each semester, resembles Reigeluth's (2016) idea of alternating phases of teacher-focused demonstration and task-centered studying. Teacher-focused phases provide skills and tools students need but also standards they have to meet. Then, task-centered studying by learners builds upon this. Ideally, intrinsic motivation of the learner and feedback by the teaching staff foster and speed up the learning process. This approach is also inspired by Bloom's taxonomy and sets learning objectives in accordance with the level of experience, knowledge, and competence of the semester (Krathwohl, 2002).

The module "Economics" of the first semester presents a relatively well-defined corpus of contents. Academic institutions and employers expect that students are familiar with this. Nevertheless, I try to promote critical thinking and demonstrate that there is not an exclusive approach in economics that suits all phenomena but a variety of models with limited empirical scope. In the module "Economic and Social Policies" (3rd semester), students learn to view phenomena from different perspectives, which includes to contrast the view of economic policy versus the view of social policy and different approaches in each discipline. Teacher-focused inputs are combined with student working groups, which prepare presentations on self-selected topics, and many interactive elements like role plays, fishbowl discussions, and quizzes but also individual assignments. A special focus is on case studies and problem-based learning, both nowadays well-established teaching approaches (Forsythe, 2010; Volpe, 2015). Selected meetings are realized as flipped classroom to activate students despite a class size of 60 students or more. Shi, Ma, MacLeod, and Yang (2020) conclude in their meta-analysis that, moderated by the pedagogical approach, flipped classroom strengthens active learning even in larger groups. Moreover, the concept is already successfully employed in economic settings (Balaban, Gilleskie, & Tran, 2016). Nevertheless, to adjust learning speed to individual requirements is difficult considering the class size mentioned above. Additional resources and challenging tasks support excellent students but underperforming students often shy away and are difficult to identify and address, especially if, like in Germany, participation is not compulsory and then some students show up only for the exams. The third module in question, "Political Economy of European Integration," is an elective in the fifth semester. I assume that students have a sound knowledge on how to structure and write an academic paper, that they can use methods and models and thus are able to start their own research project. Therefore, this module utilizes a research-based approach (Healey & Jenkins, 2009). In project groups of four to six students, they learn how to conduct a research process: They review literature and identify a scientific gap, they search for an adequate theoretical framework and formulate it, they develop hypotheses

derived from this framework, they use time series and descriptive statistics to "test" their hypotheses in a nontechnical and narrative way and discuss scope and limits of their research. Due to the higher semester and the smaller class size, the learning process can be adjusted individually, at least to competencies and learning speed of each project group. Roughly one-third of the semester is reserved for group and individual counseling.

The turn to digital teaching, forced by the Covid-19 pandemic, has not completely changed the basic structure as outlined before for on-site teaching but many adjustments were necessary. In my modules, I wanted to test different options and wanted to transfer my existing didactical concepts into an adequate digital form. Mainly, I used the tools of Figures 10.1–10.3.

Regarding the first semester module "Economics," I knew before the start of the semester that especially some international students would not have full access to the learning platform of the university in the first weeks of the semester. Moreover, I wanted to offer the students the option to repeat content they did not understand immediately and to allow for practice and interactivity. Therefore, I decided to upload interactive videos of all lectures. Videos were realized with Camtasia (2021), a recording and editing tool, and combined animated slides with a video of mine before a green screen and pen-based drawings and annotations in order to mimic the lively atmosphere of an on-site lecture. Students could watch the videos at any time and repeat what they were not able to grasp the first time. From time to time, the video stopped automatically and a question, small case, or puzzle was presented, followed by an explanation in the video when students clicked to continue. Interactions are realized with the H5P Framework (2021) that is integrated in

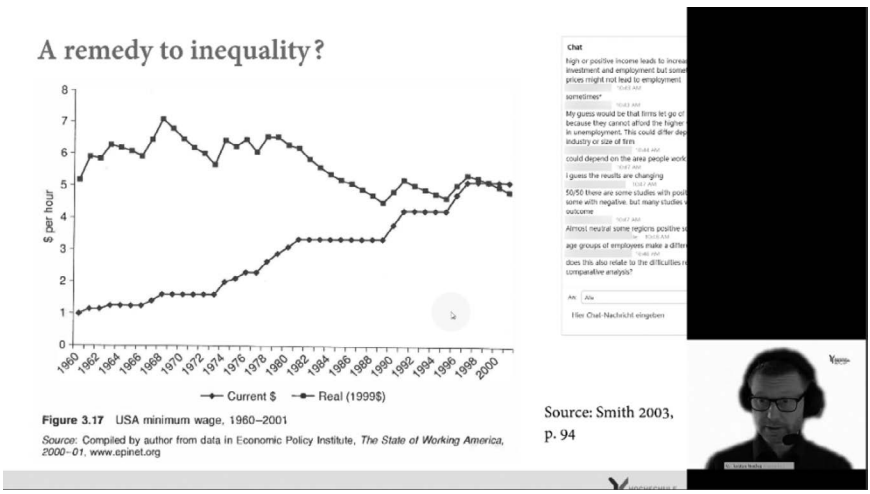


Figure 10.1 Screenshot of an interactive video.

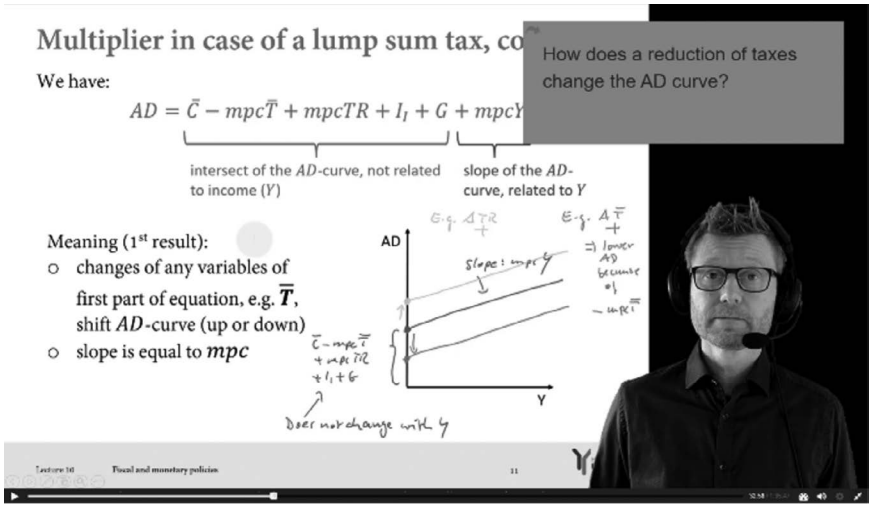


Figure 10.2 Screenshot of a video meeting.

the Moodle learning platform. Advantage is that this is easy to use, disadvantage is that any change in the video requires a repositioning of all interactive elements, and there is no way to integrate the interactive elements directly in the video, hence an export to other platforms is difficult. As in case of on-site lectures, I offered lecture notes, a forum, test banks, a mock exam, and further readings on the electronic learning platform Moodle.

The lectures were accompanied by two parallel exercises that split the class into half in order to practice and to allow for questions and discussions. Exercises were realized live as Cisco Webex video conferences (2021) and were not recorded. They always started with a short repetition of the content of the lecture and questions for clarification. Then, students processed as class, in groups or individually questions, cases or calculations each followed by presentation and discussion of results. For contributions to the discussion, students could either unmute themselves or use the chat. Webex allows to assign students to so-called breakout groups, i.e., separate meeting rooms in which three to five students could discuss and solve together exercises. Additionally, I used Pingo (2021) for quizzes in the video meetings and Moodle to provide exercise sheets, sample solutions to the exercise sheets and further readings.

In "Economic and Social Policies," all lectures were streamed live via Webex. Students could unmute themselves or use the chat to raise a question. Moreover, I recorded all lectures, removed all contributions by students to be in line with data protection requirements, and uploaded the recordings to Moodle for asynchronous watching. Additionally and identical to my on-site

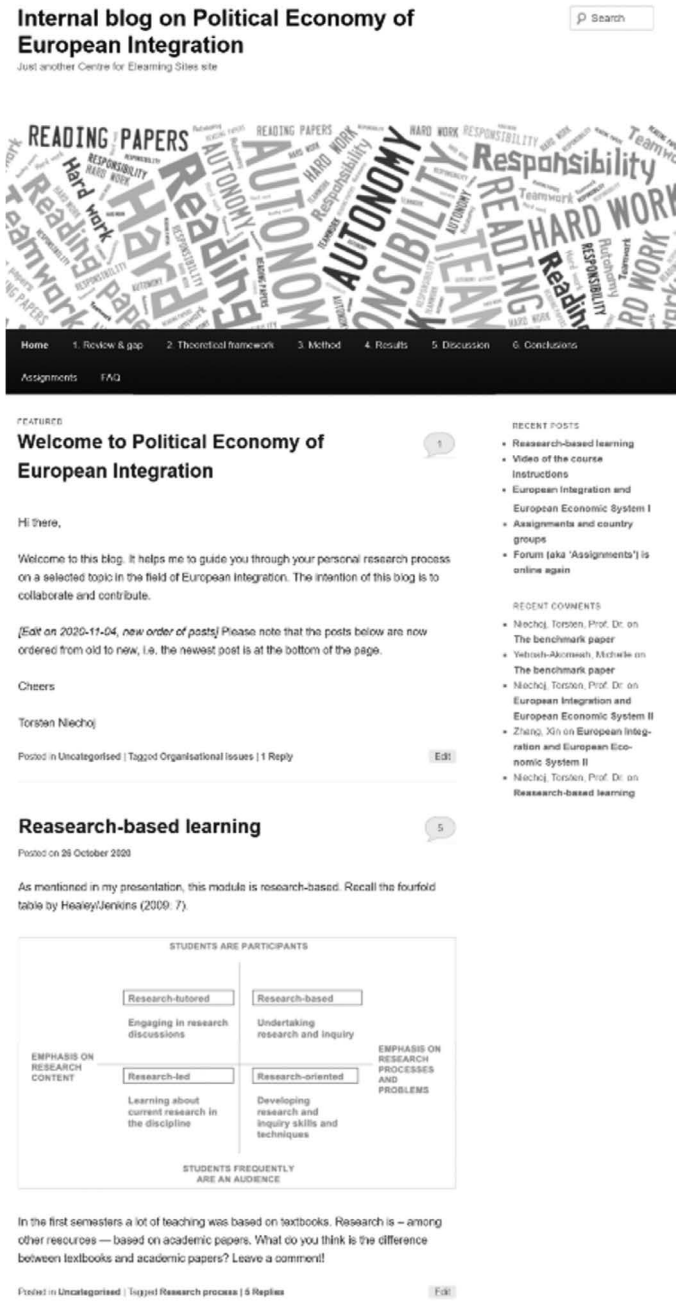


Figure 10.3 Screenshot of a blog, part 1.

courses, I uploaded lecture notes and further readings to Moodle. I used polls and a simulation. I couldn't use a second simulation I usually run with the students in PC pools because this is not a web-based application and therefore is not available for all computer systems and especially not for tablets and smartphones many students use. The exercises that accompanied the lectures were taught by another lecturer who also used Webex for this.

The last module, "Political Economy of European Integration," centered around a Wordpress blog, with access only for students of the module. As an entry point, I used Moodle, too, because students expect to find information on their courses on Moodle but the course page was then linked to the blog. I used the blog to provide instructions and suggestions, to supply academic papers, presentations, data and videos, and for assignments. The commentary function of the blog was also used to communicate with students and for peer review by students. Additionally, there were Webex meetings, sometimes for the whole class, sometimes for the project groups. As a research-based module, contents covered inputs by me on European integration, economic policies, and analyses, provided as academic papers, videos, or verbally in Webex meetings but the focus was on counseling the research projects of the groups which included joint work with databases and the discussion of methodological issues. Students had to structure their work in e-portfolios (Boesch, Reynolds, & Patton, 2016) and to document their research process in several assignments (including presentations) and finally in a short-term paper that on the one hand summed up the results of the research process and on the other hand reflected upon the learning process.

Other colleagues at my university used partly the same or similar tools, although not always in combination. Rhine-Waal University of Applied Sciences conducted an internal study among the teaching staff in August and September 2020, in which 51% of the teaching staff participated (Flockau, 2020, p. 8). According to Flockau (2020, p. 23), roughly 90% of the teaching staff used video meetings, 80% uploaded exercises (partly including corrections), 77% videos, 64% uploaded readings, 58% used flora, and more than 50% used written lecture notes with or without audio. Other tools were used by less than 50% of the teaching staff and less than 50% recorded their video meetings. Less than 15% used blogs.

Examinations had to be transformed into digital ones, too. Firstly, because of hygiene requirements and secondly to allow international students that were not able to enter Germany to participate from abroad. In case of the fifth-semester elective, the examination did not differ from previous semesters because students had to submit assignments and term papers already in the past electronically. In "Economic and Social Policies," the examination differed from previous semesters but I decided already before the pandemic to change from presentations plus written exam to presentations plus a short-term paper. Therefore, this type of examination was already "corona-friendly" and took place as virtual presentations via Webex in the exercises

and a short-term paper. The paper had to be written within 24 hours in the exam phase. Students could choose from four to six different topics, depending on the exam phase. For each topic a resource like a report, study, video, or song was provided as a source of inspiration and a starting point. Students should spend four to six hours for the preparation of the term paper that had to follow academic standards. The elective module "Political Economy of European Integration" draws heavily on formative assessment but because of legal restrictions in an indirect way. Students were asked to write an e-portfolio and to include in this several small assignments and presentations. Part of the assignments were delivered as joint work of teams of students but due to the e-portfolio, that had to be prepared individually, the requirement of individual assessment was guaranteed. A template for the contents of the e-portfolio was provided but students were free to use a variety of tools from elaborated systems like Mahara (2020) to a simple system of folders on their Solid State Drive (SSDs). Nevertheless, for practical reasons, the resulting report had to be delivered as PDF, which was afterward automatically (and later also personally) checked for plagiarism. In "Economics" the fundamental assumption is that students should not specialize too early and should be able to demonstrate methodological skills, application of models, and stylized facts on a broad range of topics from micro- and macroeconomics. Consequentially, a written exam was used in the past to evaluate the performance of the students. Due to hygiene requirements, on-site exams could not take place for a long time and thus I decided to use a digital format here, too: An online exam using the testing system Evaexam (2021).

Experiences with digital teaching

In order to enrich anecdotal evidence and because the regular evaluation was suspended during the pandemic, I conducted surveys on digital learning in all three modules on my own. A crucial point is the size of the population. Students do not have to enroll officially for a module but they enroll to Moodle courses. However, that does not mean that they intend to actively participate in a course, e.g., because they simply want to check out all available courses, and enrolment is necessary to access the content, or because they are students of a higher semester who want to partake in the exam(s) but not in the course itself. Because of the latter reason, the number of students who partakes in the exam(s) also overestimates the number of active students. Moreover, there are fluctuations over the years in the cohorts ranging from 73 to 102 and an average of 80.75 first semester students over eight years (Reinders, 2020, p. 3).

In "Economics," the first semester module, the participation rate was in all meetings below the rate of on-site semesters. On-site I usually start with more than 75 students and roughly 45 students attend lectures and exercises on a regular basis until the end of the semester. During the pandemic the

number of participants, measured as participants in Webex meetings, ranged constantly and since the start of the semester from 30 to 40. In "Economic and Social Policies" constantly over 30 students participated in the Webex meetings which is roughly five to ten students below the number of students in on-site meetings that attended class on a regular basis in the past. In the elective module "Political Economy of European Integration" not all 28 students participated always in the meetings but this is also true for previous on-site courses and thus the online participation rate did not differ from the on-site rate. Roughly 70% of the active students, defined as participants in meetings on a regular basis, participated in the poll: In "Economics" 33 students, in "Economic and Social Policies" 20 students, and in "Political Economy of European Integration" again 20 students (73 students in total; of these 58% female and 42% male). The main reason for this rather low rate is the point in time of the poll. It had to be conducted at low participation rates in class before the holidays at the end of 2020 in order to cover enough sessions but also to meet the deadline for this contribution.

First semester students had a rough start due to the pandemic, not only that most of the meet and greet (and drink in pubs) had to take place online but also because especially international students had problems to get visa and enter the country. Although this is a common problem in normal times, too, it was much harder than usual to arrive in Germany and to receive credentials in time. Accordingly, 12% of the respondents reported that they did not have access to e-mail and the electronic learning platform of the university when the courses started. Because of such organizational hurdles but also because of other reasons, some students started late to work through the contents. Twenty-one percent of the respondents in this course did not access the electronic learning platform in the first two weeks, meaning that they did not have access to course instructions and contents. In principle, they could watch the interactive lectures later but they missed the first exercises, which were not recorded.

A potential reason for a delayed start might be motivational. Figure 10.2 points to this. Obviously, for the majority of students the pandemic had a demotivating effect.

The numbers even underestimate the discouraging effect of the pandemic. It can be assumed that demotivated students do not participate in class and in such a survey at all.

However, digital learning, although only seen as a second-best option in times of the pandemic, can have striking advantages, too. Videos are available at any time and can be watched in accordance with individual preferences and personal circumstances, hence increasing the work-life balance. Moreover, interactive and lively elements like questions, which interrupt the video, and an integration of the lecturer and drawings and annotations that add to the (animated) slides might be helpful to support the learning process and can compensate for the lack of face-to-face interaction – but asynchronously.

All but one student of "Economics" welcomes to watch videos at any time but also interactive elements are supportive of the learning process. As interactive questions, I mainly used open questions, i.e., that students were asked to recall something, think about a puzzle or an empirical phenomenon and then, after clicking a continue button, this issue was addressed in the video. Seventy-two percent of the respondents said that they answered these questions most of the time or often for themselves.

For the exercises in this module, Webex meetings were used. In all exercises, students were from time to time assigned to breakout groups in order to discuss and solve questions and cases in groups of three to five students.

As Figure 10.4 show, the majority of the respondents identifies breakout groups both as productive and favorable for their own participation. Some students are very active, as Figure 10.5 demonstrates, and speak to the class or write in the chat. This is in line with my experiences and in line with on-site exercises. A small number of students seem to be highly motivated and is attending exercises actively, irrespective of the format. They are also the ones that present group work in class.

In "Economic and Social Policies," the lectures were streamed live but also provided as recordings in Moodle. On average, 78% of the respondents watched the lectures live. At least the respondents of the poll of this third-semester module assessed video conferences as an attractive way to study.

But it is fair to assume that most of the students who have problems with this way of learning did not follow the Webex meetings and thus did not participate in the survey. Please observe also that the same content was not delivered as on-site lecture or interactive video, hence a direct comparison is impossible.

In contrast to the exercises of the module "Economics," participation in the lecture of "Economic and Social Policies" is lower and more normally distributed, as Figure 10.7 highlights. The difference in format – exercises versus lecture – is a plausible explanation for this.

How much time students spend for preparation of meetings was not thematized in general but in regard to the sessions in which I used the concept of flipped classroom. In two sessions, a chapter of a textbook was compulsory to read. After my short recapitulation of the contents, there was room for questions for clarification and discussion of the text. Based on previous experiences with flipped classroom in times of on-site teaching, I prepared and used central questions and tasks to be solved or discussed in breakout groups. In principle, the concept worked but the quality in terms of substantiated, critical, and innovative contributions was moderate, not excellent. The data shows a possible explanation. Of the respondents, only 20% read and prepared the required readings for both flipped classroom sessions (one of two texts: additional 45% points; no text: 35%).

The last module allows for a limited comparison of types of learning because in the module "Political Economy of European Integration" videos,

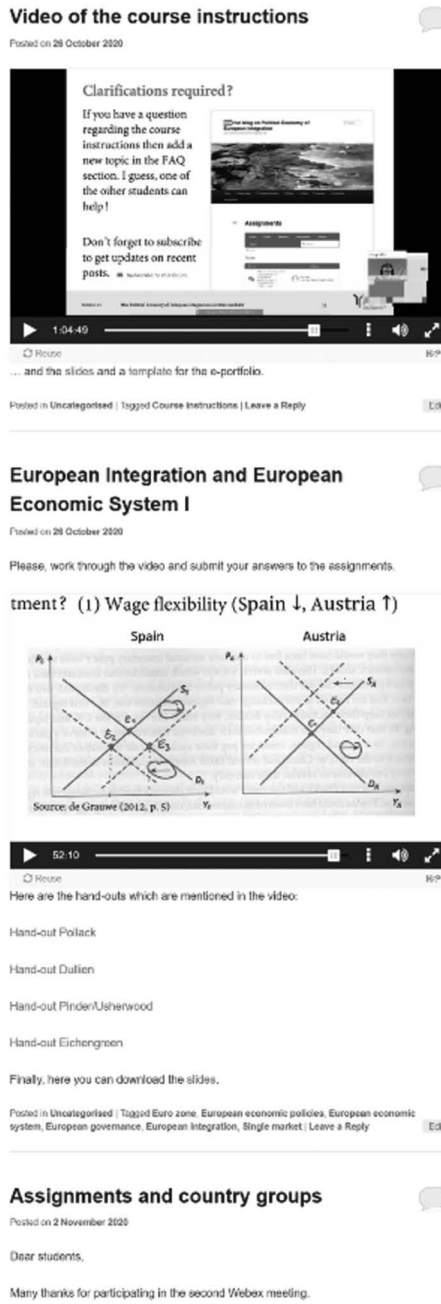


Figure 10.4 Screenshot of a blog, part 2.

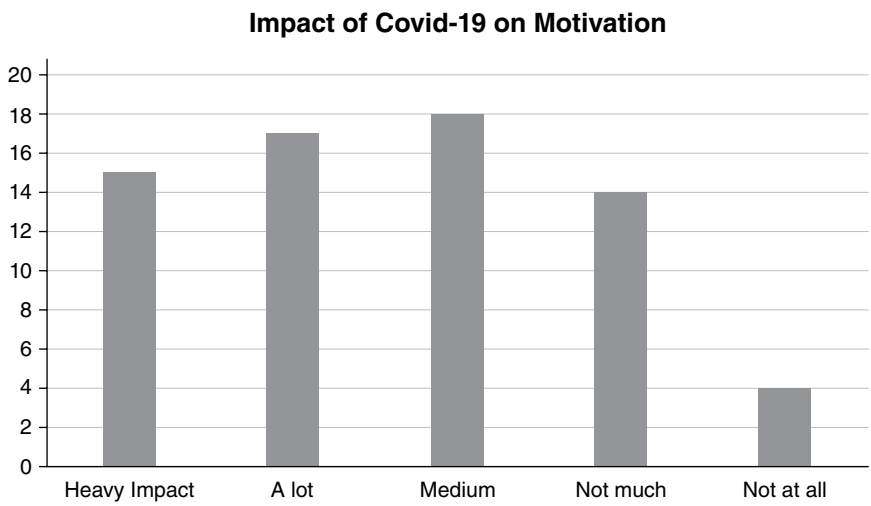


Figure 10.5 Impact of Covid-19 on motivation, note: $n = 68$, aggregation of all three courses.

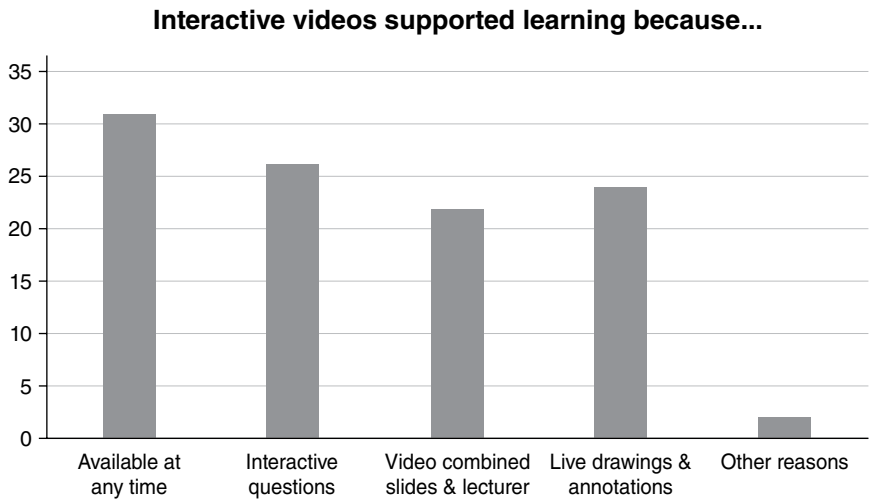


Figure 10.6 Advantages of interactive video, notes: $n = 32$, multiple answers possible.

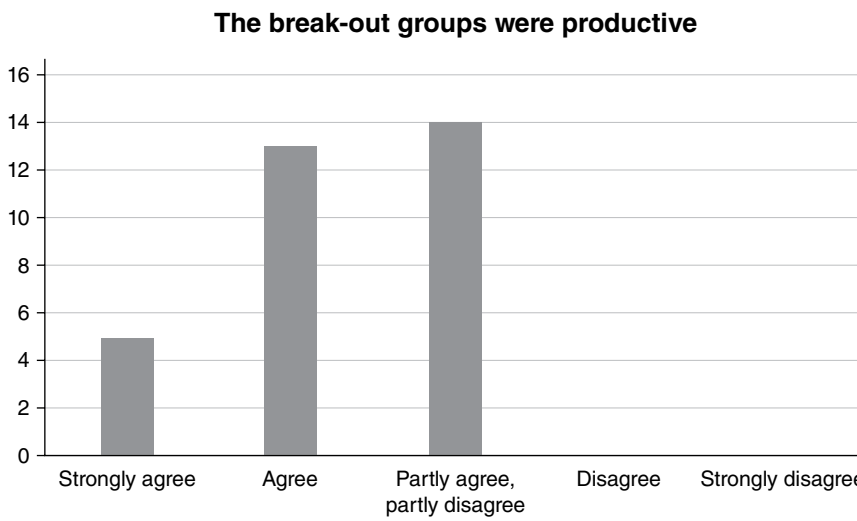


Figure 10.7 Breakout groups, note: $n = 32$ (first statement) and $n = 31$ (second statement).

video conferences, a blog, and working groups were utilized. Videos were mainly applied in the first third of the semester to present and deepen understanding of European integration and European economic policies and accompanied or replaced Webex meetings. As mentioned above, the module followed a research-based concept and organized this research in form of working groups, supported by joint Webex meetings and discussions in class but also group-specific counseling realized through Webex meetings. Video meetings took place in 8 out of 12 weeks. From week to week, working groups had to work on assignments and to develop and conduct their own research project. Blogs are rarely used in teaching at Rhine-Waal University; therefore, the idea was to offer on the one hand a fresh learning experience which on the other hand students are familiar with from other contexts. The objective was to realize an elegant way to present and connect contents, to respond quickly to new developments in class and to be able to assign tasks easily and clearly, and to collaborate in a way students are used to from the apps they use in their lifeworld. Students were asked whether they wanted to have more or less of each of it (Figure 10.8).

The results show that videos and Webex meetings were mainly assessed as "good as it was." However, the blog – the working horse in this module to organize tasks, to collaborate, and to document the evolution of the research process – was too much, at least for a significant part of the respondents. Moreover, half of the respondents voted for a reduction of working groups, the second essential element of this module. A potential reason can be seen in the assessment of the workload. For 45% of all respondents, the workload in

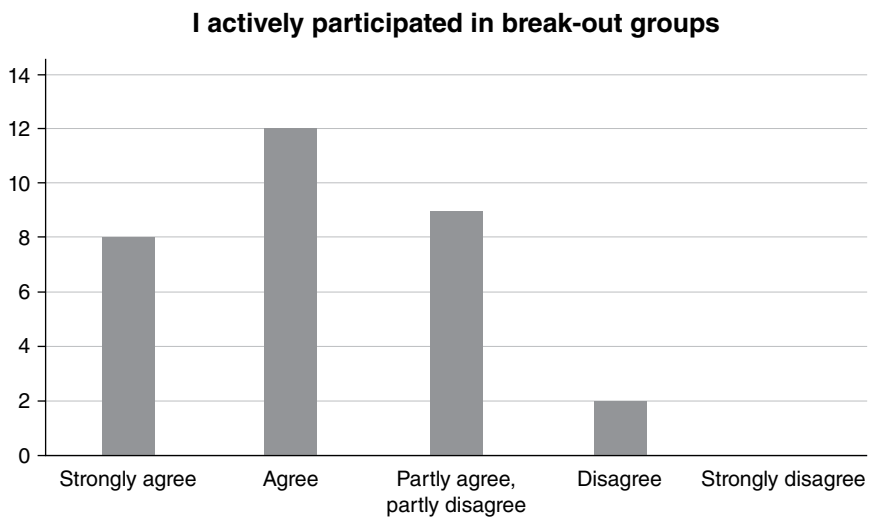


Figure 10.8 Breakout groups, note: $n = 32$ (first statement) and $n = 31$ (second statement).

this module was too high. It is pure speculation, but maybe the workload is mentally linked to blog and working groups because assignments were most of the time group assignments and had to be submitted to and commented on the blog afterward. Also as a tool for communication, the blog performed not well. Only one respondent prefers to receive notifications via blog. All

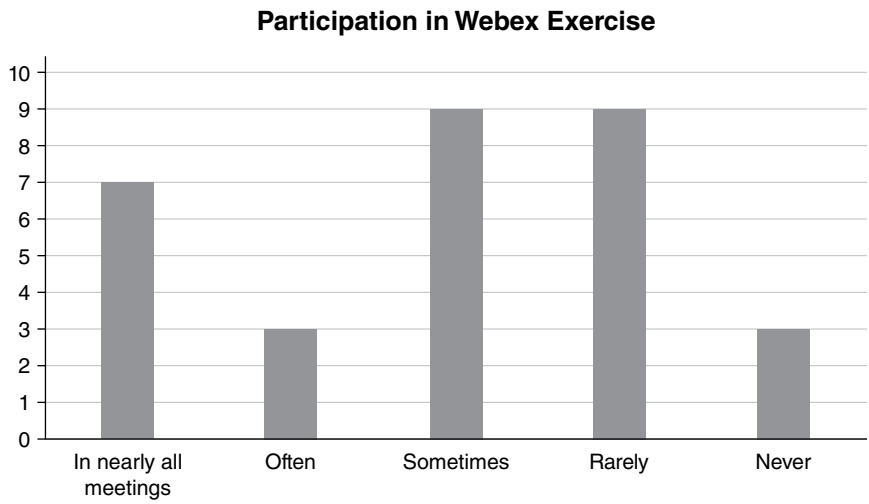


Figure 10.9 Participation in Webex exercise, note: $n = 31$. Source: own depiction.

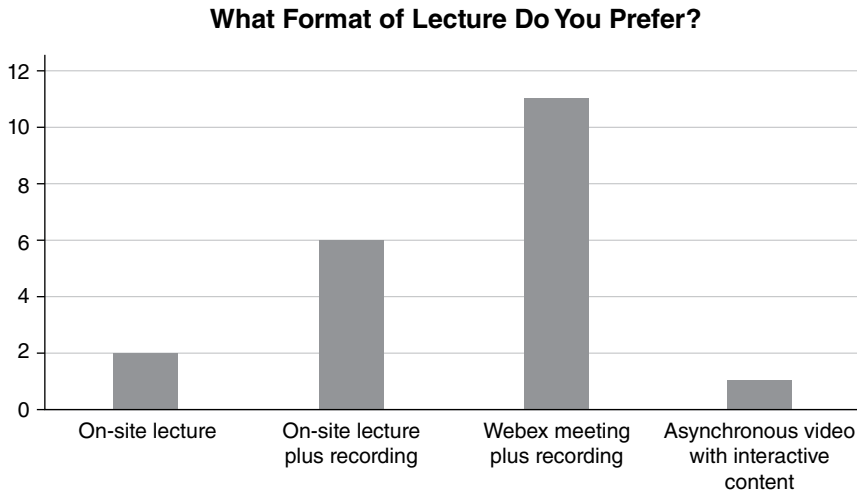


Figure 10.10 Preferences for different lecture formats, note: $n = 20$.

other students want to be informed by e-mail or the messaging service of the learning platform.

Regarding the exams, results cannot be fully reported because at the time of writing the final examination phase was not over. Preliminary results show that in the elective, in which as in the years before, a term paper had to be submitted in electronic form, not much has changed. In the module

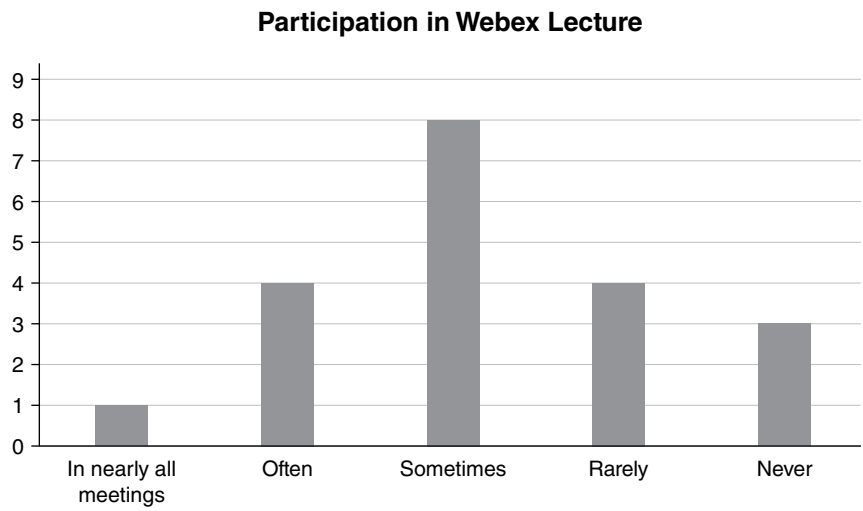


Figure 10.11 Participation in Webex lecture, note: $n = 20$.

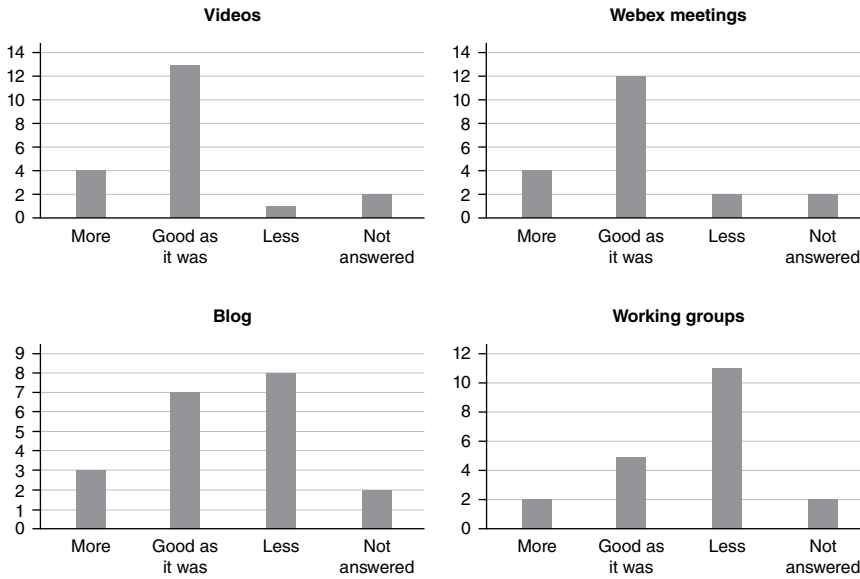


Figure 10.12 Preferences for different seminar formats.

"Economic and Social Policies," I introduced independently from the pandemic another exam format which renders comparisons difficult. The higher participation rate in the exam compared to previous exams can be explained by a different format and by a Covid-19-specific regulation that in case of students who fail to pass the module for the first time during the pandemic the result is annulled. In "Economics" an online clone of the on-site exam is impossible because legal restrictions do not allow for proctoring and due to restrictions of the software not all types of questions were possible. Still a written exam was conducted. In order to reduce the unwanted use of chat apps or other collaboration tools, the online exam was designed as an open book and speedrun exam.

Discussion

The data presented in the section above is limited to three of my modules and covers not all students, especially not those students who were discouraged by the pandemic and did not participate in what was supplied online. Only roughly 70% of the students that took part in the courses on a regular basis responded to the survey. The modules are all part of a degree program in business studies. Consequentially, my experiences might not match experiences of other teachers in different teaching situations under different legal and material conditions, especially in degree programs that have to rely heavily on laboratories or other forms of practical learning. Moreover,

teaching courses is not a standardized product. Hence, the same tools in different hands or at different times might lead to different results, which limits reliability of the results. Concerning measurement validity, it can be noted that students were familiar with the tools and concepts subject to the survey due to their experience in class. Summing up, one has to be careful when generalizing the results.

Having said that, the first finding is that digital teaching does not reach all students who usually participate in on-site teaching. Some students, however, prefer digital learning due to its flexibility. Secondly, students gain from collaboration. This is, however, something that has to be carefully designed and organized; it does not sufficiently emerge spontaneously among students. On the contrary, especially students that start at a university and do not have established peer and working groups have difficulties to contact other students and to establish well-functioning work units outside the learning space created by the lecturer. Thirdly, students favor tools that resemble traditional teaching: Interactive videos with interactive elements that mimic questions and answers in an on-site lecture and video conferences with the opportunity to raise questions and to present results of individual or group assignments, again similar to the situation in lectures, seminars, and exercises on-site. Not all tools were well received by students. The blog was intended to simulate the atmosphere of a seminar or workshop. It allows for fast adjustments in structure and content, comments can be used to organize discussions and peer review, and it combines different types of media in a convenient user interface. Nevertheless, the blog was less successful than intended. Maybe the multitude of options created a too complex setting or the blog resulted in a much higher workload than in case of more passive forms of learning. This is surely something that has to be analyzed further.

Although the main objective was to transfer the positive aspects of on-site teaching – direct interaction, feedback that allows adjusting to the needs of the students, the creation of a productive atmosphere – to online teaching such an approach has severe limits, mainly the lack of face-to-face interaction constrains communication. Most of the students are, due to a constrained bandwidth or other technical limitations, not able or they are for other reasons very reluctant to switch on video in meetings. At least in larger groups, and that usually means more than ten students, one is confronted with face-to-gray tiles communication, which renders visual feedback impossible. However, it is important to see whether students are able to follow the contents, if they need a break or if one has to change the teaching style. In addition to this, anecdotal evidence points to the problem of multitasking. Students learning on-site also use their smartphones, talk to other students, or focus on other activities, not related to the course. In a video conference, in which the camera is switched off, such other activities increase. Some students reported that they watch video meetings or videos at their workplace and alongside their contract work. Furthermore, if the camera is switched

on, it is surprising to see how many students do not seem to have a proper study desk but participate from their beds or couches. Due to the pandemic, working spaces at the university could not be used.

Another factor that is quite challenging from the point of view of the teaching staff is the amount of time to turn courses into online courses. Recording sessions requires preparation by setting up the equipment and the software. But what really multiplies the workload is post-production. Recordings of video conferences do in principle not need much post-production. In my case, there was additional workload because I cut out all contributions by students to guarantee protection of personality rights. Post-production of interactive videos is more time consuming. For recording, editing, and then implementing interactions for content that corresponds to a 90-minute lecture I needed as a rule of thumb seven hours to create the final video. Additionally, rendering and upload is time consuming but does not need much active involvement. The time one has to spend for such technical issues is clearly lacking for updates of content and the improvement of contents. Usually, I update all my modules and change the content due to new developments in research. This was largely not possible during the last two semesters. In the future, even minor changes in structure and partial revisions will, most likely, lead to considerable new recordings and/or changes of the online courses. Thus, keeping the content up-to-date is more time consuming than usual and an obstacle to continuous improvements. Maybe a solution to this are additional short videos with new content, however that increases the workload for students with a rising number of such updates and requires that students are able to master inconsistencies between videos if updated information partly revises older data or statements.

Online teaching also fosters the already existing processes of work intensification, dissolution of boundaries of work, and an increase in multitasking for the teaching staff (cf. Shin & Jung, 2014 on causes and empirics for higher education systems). This is the fourth conclusion I would like to draw. Teaching changes from at least partly separated time slots for each module to permanent oversight and continuous handling of all modules. Questions of students cannot be answered before or after on-campus sessions but come in through e-mail and other channels on a permanent basis. Data has to be uploaded, posts have to be written, assignments have to be set up and corrected. In video meetings, handling the technical equipment, lecturing, and monitoring potential requests at the same time – against the background of a loss in visual feedback – are quite stressful. On top of this, cameras lose focus, microphones stop to work, computers freeze, a backup or a virus scans slow down the computer, blogs are not accessible, notifications do not reach the recipient, encoders produce erroneous videos, and more. This observation can be further substantiated by the internal study I mentioned above. Flockau (2020, p. 41) reports that 23% of the professors classify the workload as "higher" and 69% as "much higher" than usual. Consequentially, this has

an impact on research: Eighty percent of the professors assess prerequisites, measured in time for research, as "bad" or "very bad" (Flockau, 2020, p. 48). According to Flockau (2020, p. 55), 89% of all professors report that interaction with students deteriorated or deteriorated much. The increase in flexibility due to digital teaching means for 34% of professors an improvement and also for exactly 34% of other professors a deterioration; however, 55% see a deterioration of their work-life balance (Flockau, 2020, p. 57).

Conclusions

This contribution sums up my experiences with different digital formats in three modules of business studies. In the modules, I used interactive videos, video conferences (including breakout groups), and a blog. As in on-site teaching, I also used a simulation and polls, provided lecture notes, exercises and sample solutions, further readings, and more.

Conclusions, which are mostly based on a survey I conducted with the students of the three modules, are as follows: Firstly, the rapid transformation toward digital learning leaves a significant amount of students behind, but others benefit from the increase in flexibility digital learning provides. Secondly, collaboration among students is essential for the learning process but has to be organized by the teaching staff. Thirdly, tools that resemble traditional forms of teaching are well received, new forms of teaching and learning that increase collaboration, interaction but also workload for students are less accepted. Fourthly, digital teaching fosters the already existing process of work intensification, dissolution of boundaries of work and an increase in multitasking for the teaching staff.

What will remain from the experiences of digital teaching after the pandemic? Will we see a revolution of learning that establishes digital learning as the new norm? Or will the teaching staff return to the traditional way of teaching? In my view, and this is not a very surprising result, the middle way is the most likely scenario. We will see a transition toward a situation in which most of the teaching staff will return to on-site teaching but will continue to use some of the tools they became familiar with during the pandemic. Moreover, more courses will be offered in the future as online courses. Especially universities of applied sciences can gain from this because they often offer degree programs for students who do an apprenticeship at the same time, called dual studies. Hence, online courses can attract more of such students who are then able to study whenever they can spare the time.

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Chapter 11

Utopian imagination, critical thinking, and encouragement to act

New ways of teaching in times of crises

Marieke Fröhlich & Eva Maria Hinterhuber

Introduction

The current generation of young people is confronted with an overwhelming abundance of crises: The climate crisis and the extinction of species are threatening to take on apocalyptic proportions and are already depriving people (and fauna and flora) in parts of the world of their livelihoods. The number of wars is increasing worldwide, and globally an unprecedented number of people are fleeing from conflict, repressive regimes, poverty, and more. At the same time, democracies seem to be eroding, social divisions are increasing, and authoritarianism and right-wing populism are on the rise. Crucially, achievements in terms of gender equality and anti-discrimination are increasingly being called into question. In addition, the effects of the pandemic further increase power imbalances between the global North and the global South as well as social inequalities within societies (not only) along gender, racialized, and class lines.

The crises of our time are all subject areas that touch the core of what is dealt with in the study program "Gender and Diversity" at Rhine-Waal University of Applied Sciences (in rural Kleve, North Rhine-Westphalia, Germany), culminating, so to speak, in the course "Gender Mainstreaming and Anti-Discrimination": What is the role of gender equality and anti-discrimination in times of crisis? What ideas do policies of gender equality and anti-discrimination follow? Who are the actors? What methods and tools exist, and (where) have they proven effective? What goals are being pursued at all, and who defines them?

Furthermore, is it legitimate, within the current background described, not only to analyze the existing hierarchical gender relations and structural discrimination, but to broaden the boundaries of what is conceivable or imaginable, thus also to include the impossible, the Utopian, or does this only represent an escape from reality?

In the conception of our course, we answered the question in the affirmative, in favor of including the Utopian. We consciously distanced ourselves from the doomsday ideology of "there is no alternative." Instead, as a common

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thread we included the turn to what could or at least should be possible. On the one hand, our aim was to give students a sound basis of knowledge about gender policies of the European and the African Union, to familiarize them with Gender Mainstreaming and its toolbox as well as anti-discrimination, and with applied examples. On the other hand, we wanted to open up a world beyond supposed constraints; on the basis of an introduction to the Utopian in science, they should both develop their own ideas and trace where elements of the Utopian already exist in the present.

A further aspect of our approach of Utopian imagination to highlighting the ways that crises can give an impetus for opportunities, possibilities, and change: The current overlapping crises have rendered immense responses, both collectively and individually by engaged, active, and enraged young people. Fridays for future, the Black Lives Matter protests, neighborhood collectives, etc. were all responses to the pressing need for action. Yet, tools are needed to be able to turn aspects of the oppressive, negative, and daunting into a space of possibility to create a scope of action. Especially in times of overlapping crises, a sense of powerlessness might make this a daunting task. We consider our role as educators, specifically in Gender Studies, in supporting students to be able to take on individual and collective authorship of their lives, communities, and societies (cf. Nida-Rümelin, 2016) and thus enable students to create their own tools for action. We conceive of education as *Bildung*, as a process of enabling to create one's own image (*Bild*) of the world, one's life, and society (ibid.) and develop one's own scope of manoeuver to act upon this. In this sense, we consider critical thinking, utopian imagination, and courage for action as central to enable young people to imagine the future, take individual and collective responsibility for our planet, and conceive of ways toward and ultimately enact social change.

At the same time, we also broke new ground didactically: After university teaching had to be converted to distance learning enforced by the spread of Covid-19, we decided to break out of the standard format of a learning platform like Moodle and rather conduct the course using a course blog. Our aim was to enable students to learn independently and asynchronously, given the uncertainties associated with the pandemic. Nevertheless, there should still be an exchange with us as teachers as well as with fellow students, both asynchronously and in real time. Here, the blog format opens up a range of possibilities. In addition, we hoped that it would accommodate the communication habits of students as digital natives, offer a more visually engaging interface, and lower the inhibition threshold to participate.

Altogether, with striking these new paths of teaching in times of crises, our aim was not only to convey knowledge and to sharpen the students' analytical and critical thinking skills, but also, by including Utopian imagination and its applications in the present, to show that problems can be addressed: A resigned attitude in the face of the abundance of challenges should be contrasted with encouragement to act.

Working with an international and diverse group of students in times of the pandemic: Remarks about the context

Rhine-Waal University of Applied Sciences is a very young and relatively small public university in Kleve, the west of Germany. With the majority of degrees offered in English, the student body is extremely diverse. More than half of students at the university are from abroad, coming from 120 nations, and even more cultures and backgrounds. Specifically in the Gender and Diversity Bachelor's program, heterogeneity of the student body is pronounced in terms of age, gender identity, etc. This diversity is very enriching for students and teachers alike yet also led to additional challenges when the pandemic reached across the globe. Due to travel restrictions, many students were forced to either remain in their home countries unexpectedly or to be separated from their families and friends for extended amounts of time. As such, time differences and issues of lacking/insecure infrastructure, e.g., internet access, could be a problem. In addition, students were confronted with additional challenges in terms of increased caring responsibilities amidst school and kindergarten closures, lack of a conducive learning environment amidst campus closures, loss of income, and the general heightened stress of living through a pandemic. These factors all played important roles when planning and conceptualizing our course.

On the one hand, the specific requirements from the university necessitated all content to be delivered asynchronously, as to not create any disadvantage for students based on their location, caring or work responsibilities, or access to internet. While an important measure to ensure inclusivity, asynchronous teaching also means much less opportunities for engagement, discussion, and exchange amongst students and with teachers. For teaching Gender Studies, as an interdisciplinary social science, opening space for student discussion, interaction, and discourse is vital. Instead of a content focus only, our discipline thrives on dynamic interaction, contestation, and exchange. Thus, next to delivering the content to students, a central aim of our course was to allow students to create a digital asynchronous space for interaction, where various possibilities of engagement and collaboration allow different students to participate depending on their individual strengths. At the same time we needed to consider pragmatic needs such as time and resource constraints of students and teachers, which were also heightened due to the pandemic, for instance due to a shortened semester or issues of access, but also related to the university system (e.g., high teaching load).

As a result of the primarily asynchronous format of online teaching and the specific topic of this module, we used a mixture of more traditional lecture-style input formats and different digital tools, interactive methods as well as a tweaked future workshop structure to encourage imagination and Utopian thinking amongst students.

Teaching the course in a team of two allowed more resources and diverse expertise. Importantly, both of us drew a lot on our experiences from

working in civil society, e-learning, and global/political education in terms of our methodological and didactical approach.

The course is a mid-level course; students enrolled are typically in their fifth semester. Thus, students are already familiar with many gender-related concepts and discussions as well as expectations and practicalities of our university courses. It was only because of this that we could implement this innovative course, as students did not have to learn the basics of university-level education, the main online tools of the university, etc. Moreover, students already mostly knew each other and thus already had established communication channels or at least could interact easier online than would have been the case for an entirely new cohort.

Moving beyond critique and extending the boundaries of the possible: Concept and implementation of the course

The scheduled learning outcome of the module "Gender Mainstreaming and Anti-Discrimination" is specified as "(…) advanced knowledge about Gender Mainstreaming and Anti-Discrimination legislation and policies in a broad variety of fields, and from an international comparative perspective." Furthermore, it includes "(…) the European state of the art of legislation, relevant for Anti-Discrimination and Gender Mainstreaming" as well as "a variety of Anti-Discrimination and Gender Mainstreaming action in a broad variety of social fields such as organizations, economics, management, technology etc." (Rhine-Waal University, 2016, p. 35).

In its conception, the course is divided into parts related to theory, context, methods, and, building on this basis, students' own research on case studies. Students learn about the theoretical background against which anti-discriminatory approaches like Gender Mainstreaming were developed; they acquire knowledge about gender policies in two regional contexts, the European and African Union, where Gender Mainstreaming is applied differently; they get to know about which methods (here in the sense of tools) exist in order to implement Gender Mainstreaming in various contexts; and, using this knowledge, they analyze the anti-discriminatory policy of an exemplary organization/institution/company of their choice.

With the aim of supporting students in the development of critical thinking skills, the proceeding is also oriented on Bloom, Englehart, Furst, Hill, and Krathwohl's (1956) taxonomy stages of knowledge: Knowledge, comprehension, application, analysis, synthesis, and evaluation. We used our scope of action to freely design the content within the given framework of the course (see above) and, from the very beginning, broadened the perspective of how a world could look like in which Gender Mainstreaming and Anti-Discrimination tools were no longer required.

A driving force in the conceptualization of the module was the wish to not stop at primarily focusing on the existing problems/social inequalities

and the often unsatisfying results of existing strategies (instruments/tools) to challenge them. Students often feel overwhelmed by the negative aspects of society resp. societies they explore from various angles in their study program Gender and Diversity B.A., a program that very much centers on unequal power relations. Given the multitude of current crises, this focus on inequality became even more prominent, with the result that the scope of action for social change is often assessed either pessimistically or considered impossible altogether. In this context, Annick T. R. Wibben's plea "Toward a Pedagogy of Utopian Thinking Grounded in the Everyday" (Wibben et al., 2019)[1] served as inspiration: "Observing [the gendered, raced, or classed structures that stratify societies] is the first step in challenging them; reimagining them through the creation of a Utopia takes us a step further" (ibid., p. 18). And indeed, it can be stated in reference to Max Weber (as cited in Schwaabe, 2018, p. 235) that the possible was often achieved only by reaching for the impossible that laid beyond. As a recurring theme in our course concept, students learned about the Utopian visions of an international organization (the United Nations), were introduced to Utopian thinking in science, and had to write down their own Utopian vision, before they were then required to look for Utopian islands in the present. By consistently building in these references to Utopia into the module, our aim was for students to see "that the seeds of change are indeed all around them" (Wibben, 2018, p. 18) and leave the course with the confidence that they can make contributions for a more inclusive society.

Already in the first week, after a short video introduction of teachers, course content, requirements, and proceeding, we invited the students to take a (virtual) walk through the town of Equiterra (UN Women, 2020). Equiterra is an illustration of a Utopian vision created by UN Women, with intricate details and beautiful spaces such as Unstereotype Avenue, Equal Pay Street, the Renewable Energy Centre, or Inclusion Square. This Utopia is accompanied by a "reality check," comparing the vision with the current situation, thus providing a perfect connection to the topic of our module: Considering Anti-Discrimination and gender equality through policy, legislation and management approaches, fostering a positive (Utopian) vision, and encouraging students' thinking toward what can be imagined and not to stop at what is.

In order to understand Gender Mainstreaming as a theoretical and practical approach to counter gender inequality, the module continued in the two following weeks with an introduction to the development of the European and African Union's gender policies. With the thematic expansion beyond Europe, the international background of the students was taken into account. Furthermore, a comparative perspective allowed us to highlight similarities and differences in the specific settings as well as to identify strengths and weaknesses of the respective cases. At the same time, students acquired a methodological proceeding with which to explore further examples.

At this point in the course, students had learned about historical developments, political and legal frameworks, and theoretical approaches. In the next step, we now turned to the concrete implementation of Gender Mainstreaming and Anti-Discrimination instruments. Examples from the European and African continent were presented in the video lecture of the week, whereby the main focus was on city planning in Vienna. Various levels and issues for implementation were highlighted, such as the importance of (material and immaterial) resources, obtaining a certain amount of authority within the organization, the necessity of a parallel bottom-up and top-down approach, the issue of community involvement, gender-sensitive analysis as a precondition, the utility of specific measures, as well as visibility and success of individual projects as a condition to secure long-term support and commitment.

Although Gender Mainstreaming has been assessed by many as a solution to tackle gender inequality, there are also critical voices. Specifically, Gender Mainstreaming is often criticized as very technical, having lost its political meaning and thus also its transformative potential. In a video lecture, we gave an overview about the spectrum of critical approaches to the concept. Additional literature invited students to delve deeper into some of the aspects of the concept, e.g., whether its results are indeed "Mainstreaming Gender or [rather] 'Streaming' Gender Away" (Mukhopadhyay, 2016), or how it is "Caught between the orientalist–occidentalist polemic: Gender Mainstreaming as feminist transformation or neocolonial subversion?" (Clisby & Enderstein, 2017).

Against this background, it was now time to turn to the Utopian again. In our approach, we were guided by the Future Workshop method developed by Robert Jungk (1988) with its three-step process of thesis-antithesis-synthesis. At the beginning of the process is the complaint and criticism phase (thesis), where the status quo of a specific issue is critically reflected on. In a second step, one turns to the antithesis and enters the fantasy or Utopia phase. Here, based on the critiques from step one, ideas are developed on how the existing situation can be changed for the better. In the concluding realization and practice phase (synthesis), possible solutions based on the previous Utopian imaginations are thought up and ideas for implementation are collected (cf. Bohinc, 2019; Rüppel, 2004, p. 131 f.).

We took this proceeding as an inspiration and adapted it to our module's context. In the (limited) frame of an online live session, we mirrored the first two phases of a Future Workshop (the realization and practice phase (synthesis) were integrated toward the end of the module). Thus, in a first step, students were asked what category of social inequality concerns them the most, in which field (i.e., civil society, state, or the economy), and on which level (micro-/meso-/macro-level, i.e., on an individual, organizational, or state level), and why, according in their assessment, existing methods and tools to overcome it fall short. This corresponded to the complaint and criticism

phase; notwithstanding the emphasis on gender in the course, we had intentionally opened the space for other categories in order to allow the students to take a category of social inequality they feel (scientifically, biographically, or from an activist's point of view) drawn to.

In a second step, and in accordance with a classical understanding of Utopia as a "time-bound social criticism that uses (literary) fictionality to design political, social and economic forms of organization" (Daniel & Klapeer 2019, p. 13; translation by the authors), they were then encouraged to reformulate their critiques into Utopian visions, in correspondence to the phantasy or Utopia phase. With a view to the concerns expressed before, students were asked to consider the following questions: How does an ideal society (or organization, setting, situation, etc.) look like from their perspective? Thus, what is their Utopian vision? And (how) could an anti-discriminatory tool (like Gender Mainstreaming) contribute to coming closer to such a Utopia?

While students were writing about their visions, the following week's video lecture equipped them with more knowledge about Utopian visioning as a conceptual and theoretical concept. Definitions of Utopia were provided, its relevance as a method (Levitas, 2013) for social change and as a source of inspiration for societal transformation discussed. Of course, a gender and diversity perspective was continuously included, not only because of the course's topic, but also due to the important role Utopian thinking plays both in fictional and scientific feminist literature and activism. With view on the (at this moment still pending) synthesis within a Future Workshop, a special emphasis was laid on Utopian islands that exist in the present: "Conceptualized in scientific debates as concrete, real or heterotopic Utopias, we are currently also observing an increasing number of social groups that advocate solidarity-based and sustainable economic forms and alternative forms of coexistence, political decision-making and participation beyond the traditional growth- and efficiency-oriented economies and representative democracies" (Daniel & Klapeer, 2019, p. 19; translation by the authors).

While the students were encouraged to switch on their imagination and let their thoughts fly free with reference to their own Utopian visions, the next session led them to the lowlands of implementation by turning to the concrete tools of how to implement Gender Mainstreaming. In recorded group presentations (accessible on the blog), they were asked to present one out of a broad spectrum of approaches, covering Gender and Intersectional Analysis, Gender Budgeting, Gender Impact Assessment, Gender Training, Gender Institutional Transformation, Gender Planning, Gender Monitoring, and others.

Now the challenge was to bring all the elements together and to prepare for the next step. In a digital live session, students had the opportunity to bring their own Utopias to the attention of the group – an outstanding moment in the semester, as their visions were impressive and manifold. Since it is beyond the limits of this chapter to go into more depth, we will only

mention that students' Utopias focused on different regions (or non-places); on society, politics, or the economic system – or on all at once; emphasized single categories of inequality (such as race) or superordinate terms, such as considerateness as guiding principle of coexistence in a Utopian setting; students' inspiration stemmed from the Bible as well as from a company's diversity policy; some of the visions were very detailed, others rather a broad sketch of how a better world would present itself.

In a next step, in a collective brainstorming in the plenary, students were asked whether or where they see traces of their Utopian visions already present in the contemporary world. Building upon this, students were asked to critically assess the role of tools, such as the abovementioned Gender Analysis, Impact Assessment, Trainings, etc. for attaining Utopian practices or traces of these.

Altogether, this proceeding aimed at preparing the students for the final assignment of the course – which, at the same time, meant entering the third phase inspired by the Future Workshop: the realization and practice phase (synthesis), which focuses on seeking possible ideas and solutions for implementation (cf. Bohinc, 2019; Rüppel, 2004). For this assignment, students had to choose a case (e.g., institution, organization, project) in which they see (at least parts of) their personal Utopia realized that stands out by providing an exemplary nondiscriminatory environment, by successfully applying Gender Mainstreaming resp. anti-discriminatory tools or by bringing forward societal change toward equal opportunities, etc. The case could be an organization, institution, project, group, collective, etc., belonging to the private or public sector or civil society. It could be a campaign, a project, a collective, a movement, a nongovernmental organization, a company, a way to organize (paid/employed) work, a school or other educational institution, a city, or a supranational organization. Students were free to choose their specific case and describe this (almost) real-life Utopian organization. The task was to discuss it with reference to the knowledge acquired in the course, including specific tools and approaches discussed. Critical thinking was also requested by asking to mention potential and/or existing difficulties of the organization or conflicts of interest or the like.

In a concluding digital live session, the trajectory and content of the course was presented as an overview in order to demonstrate the long way we had come together, with plenty of room to discuss the different topics and what had been achieved.

Striking new paths in e-learning: The course's didactical procedure

Thinking about didactics in the course, we set out to focus on an innovative course design that focused on interaction, diversity of methods for communication, and a focus on imaginative, future-oriented creativity for

equality. Encouraged by the university's e-learning center,[2] we decided on a blog format. The blog was to serve as a kind of digital classroom that is more engaging, dynamic, and appealing than the usually used university platform. We expected this to be attractive for students as digital natives that are (partly due to the pandemic) usually well versed with content creation, for instance through social media. (Due to data protection, social media could not be used for the course.)

As an answer to the challenges posed by the pandemic, the blog was created as an asynchronous classroom, which allowed students to study when it was suitable for them, regardless of time zones, gainful employment hours, or care work in the context of the pandemic.

Importantly, our aim was for students to have a degree of ownership of the blog through their own creation of content. Closely connected to this consideration about ownership, we were oriented on emancipatory learning in terms of enabling students to take responsibility and thus action for authoring their lives and societies, and in line with the basic logics and epistemology of Gender and Diversity Studies with its emphasis on differentiation, contextualization, and positionality. These considerations about ownership also played a role in terms of the Utopian element: The aim was to support students to create their own, creative, and personal Utopian visions of society, and, in a second step, setting out to find its reflections in the present.

Moreover, the blog offered a variety of possibilities to get creative and engage students in interaction and content creation. We used a variety of media to fill the blog, in order to create as much of an engaging experience as possible while retaining the necessary basic features of a course site. The blog also offered a more attractive visual design, with an easy-to-use interface. As a way to further increase ownership, relatability, and a sense of community in the course, we used a thematically suitable and colorful image[3] as a header for all blog sites as well as slides for live meetings. This served as a kind of corporate identity for the course and made the engagement with material via the blog more visually pleasing.

It is important to note that the term "course blog" might be misleading to traditional "bloggers" who connect the term with a mainly text based and sometimes diary-type communication tool. We used the framework of a blog site (WordPress) to harness its interactive potential, while working with multimedia instead of primarily text-based teaching. This meant that the blog consisted of a variety of media formats, methods, and digital tools. It included video lectures[4] by the teachers, additional external videos related to the content of the specific week, images, links to websites and resources as well as embedded PDFs and downloadable PDF files, e.g., for the course readings.

All necessary information for the course could be found on the blog, which was only accessible to registered students. The site had an individual tab for each week of the lecture period. Most weeks consisted of a video input lecture. Students were encouraged to ask questions and interact via the

comments section at the bottom of each tab. To successfully complete the course, students had to deliver (at least) one blog entry and two comments on other's comments (10% of the total grade), participate in a silent discussion (10% of the total grade), write about their own Utopia (20% of the total grade), take part in a group presentation of tools (20% of the total grade), and, finally, to analyze an example of a project, company, etc. as a Utopian island in the present (40% of the total grade). Altogether, the requirements amounted to 12 pages of text and had to be documented by uploading on a learning platform. Thus, students were required to actively engage in discussions in the comments section, partly through a reflection on the course content and partly through engaging with their colleagues' reflections. This created engaging discussions and allowed students to personally interact with each other asynchronously. Students furthermore had to create a group project in a chosen format and upload it to the blog in order to facilitate an asynchronous presentation. Additionally, a "silent discussion" via the digital tool padlet aimed at further stimulating engagement through a low threshold asynchronous discussion with each other, simulating a method used in in-person teaching to activate a variety of communication types.

Blog entries and comments turned out to be a successful instrument to actively involve students' into the course's content. It was applied from the very beginning, asking for reactions on UN women's Utopian city: In their manifold and comprehensive reflections on Equiterra, students' reaction ranged from enthusiastic praises (culminating in sentences like "My clarion call today is: Let Us Create Equiterra! EQUITERRA EQUITERRA EQUITERRA FOREVER") to more critical assessments that saw potential for improvement from the micro- to the macro-level, pointing at aspects like body norms still present in Equiterra, its implicit hetero/cisnormativity, or missing institutions. Students referred to each other, lively discussions arose, additional literature was cited and fuelled the debate (such as Oscar Wilde's quote "A map of the world that does not include Utopia is not worth even glancing at, for it leaves out the one country at which Humanity is always landing. And when Humanity lands there, it looks out, and, seeing a better country, sets sail. Progress is the realization of Utopias"), altogether exceeding the requirements (and our expectations).

Writing blog entries and comments with reference to scientific content seemed to be more challenging, though, as could be observed in the two following thematic lessons.

In the context of the units about EU's and AU's gender policy, video lectures and scientific readings were offered, as well as additional text and video material from the international organizations under study. On this basis, students were again required to answer questions by their choice in a virtual forum. Even though it became noticeable in the style of the remarks that this task was more demanding, a lively discussion ensued here as well, including reflections, e.g., on the transferability of gender political concepts from one

region to another, with the (inter-)dependencies between the Global North and the Global South in view.

Similarly, in their reflections on the implementation of Gender Mainstreaming, the students were, on the one hand, impressed by its possibilities as well as by the differentiated approaches ("The key aspect for me was how much detail was given to the variety of the womanhood experience with regard to age, familial status and career"). On the other hand, they stated that they now "comprehend better about how intricate Mainstreaming is to implement."

An adapted version of a *silent discussion*, a didactic method from global education (see, e.g., Agrar Koordination, 2014), was used as part of the assignments. The idea of a silent discussion is to engage learners in a nonverbal exchange to specific questions and/or topics. In an in-person setting, this usually takes place via different posters that are spread across a room with a specific question and/or statement. Within a specified amount of time (usually rather brief, ca. 10–15 minutes) participants then write their perspective/comment on the initial question and/or on another participants' comment on each paper. This process takes place without verbal communication. The aim is to apply learned knowledge or to gain a perspective of existing knowledge within a group. The method allows every participant to follow the discussion and have an equal "voice." Moreover, through the nonverbal engagement, it specifically aims to engage participants beyond verbal skills and/or extroversion, allowing more quiet or reserved group members to participate equally.

We adapted this method to suit our online course by using an external platform padlet. This served to give students an easier way to directly engage with each other, as the platform allows anyone with the specific link to add a post or a comment to others' posts. Moreover, students could indicate their dis/agreement via a thumbs up/thumbs down symbol. We used the silent discussion method in the middle of the course to discuss criticisms of Gender Mainstreaming. Students were invited to voice their own criticisms and/or reflect on criticisms mentioned in class. This aimed at allowing students to engage with knowledge discussed in the course through readings and a lecture and to engage with these through voicing their own perspectives, agreement, or disagreement. And indeed, with reference to the basic readings of this unit, a vivid silent discussion evolved among the students about the limits of Gender Mainstreaming and its place in a global setting. In addition, new topics were brought in, such as the difficulties in translating the concept (and its content) into other languages or acknowledging both the limits of a system-immanent tool and the "the troubles of the plains" (Brecht, 1949) with which practitioners are confronted in their attempts to improve the status quo.

Group presentations, another didactical tool applied in the course, are a familiar format to students in presence teaching. In the given context, it was chosen in order to enhance that students to come into closer contact with each

other in a remote setting, by forcing them to collaborate on a specific topic in small groups. This superordinate aim seemed to justify a format that already in teaching on-site contains certain difficulties, e.g., when the majority of work is realized by only a small part of the group members. An additional challenge was that the students had to produce video presentations (e.g., with Camtasia) or at least audio-tracked slides (in PowerPoint). The results were embedded in the blog and made accessible to their fellow students, combined with the possibility to discuss their strengths and shortcomings. Here, the fact that the students already knew each other facilitated the finding process of the groups. The majority accepted the challenge of producing a video with joy and put extra effort in it: The results were instructive, entertaining, and original introductions to the tools of Gender Mainstreaming.

Live sessions: Despite the decision for asynchronous teaching and learning, digital live sessions in a video conference setting (Cisco Webex) were offered on a regular basis. Participation was voluntary, not only because German university law only recognizes attendance requirements in a few exceptions, but also in reaction to the specific pandemic circumstances. In order not to disadvantage students who were unable to attend, a summary of the content of the sessions was subsequently posted on the blog. For those who could take part, it was the opportunity to get into direct interaction with teachers and fellow students and enjoy a much-missed group feeling. The live session offers were well received. Sessions were composed as a series of plenary discussions, exchange in small groups in breakout rooms, loosened up with warm-ups, flashlights, or "shamrock shambles," where everybody in a group of four has one minute to answer a certain question before passing over to the next student. Live sessions were also used to talk about the already submitted assignments, such as getting insights into the personal Utopias of fellow students, and to prepare students for their next assignment. While the former took place in small groups, as suggested by and with the consent of the respective students, their texts were made accessible to everybody in the blog (this was very much appreciated, as one reaction by a student shows exemplarily: "To read through the visions feels so empowering, brilliant thoughts and ideas which can be the basis for much bigger discussions or steps toward realizing parts of the Utopias").

Feedback and evaluation: Throughout the semester, we consistently ensured that students were able to reach out to us and provide feedback on any difficulties they encountered, either via e-mail or mediated by the course speaker, in office hours or specific rounds in the live sessions. This proved its worth right from the start as it was useful to mitigate issues with registration for the blog: At the beginning of the course, students needed to contact the e-learning center of the university in order to register for the blog in addition to signing up for the course in the university's standard course management system Moodle. This led to some apprehension and required some time but ultimately worked out. Thus, ideally, when using a variety of platforms and

tools, participants do not have to register for these, as each registration is a hurdle and creates work and effort.

Albeit there are no reliable statistics at hand, we made the observation that via the blog format students were reached who had not participated or even shown up in face-to-face teaching previously (with a few exceptions, there is no compulsory attendance at German universities). Admittedly, some students reported that having to write down their statements instead of just voicing them in a "usual course setting" was more challenging. It was noticeable, though, that for others the written exchange made it easier to engage actively, and some seemed to take advantage of the flexibility timewise, when adding their (valuable) contributions in the middle of the night.

Our concluding digital live session was mostly dedicated to feedback, which was encouraged in two ways: Via a target on a digital whiteboard and written feedback via *padlet* – both anonymous. In the target on the whiteboard, students were asked to rate the atmosphere, the methods, the own learning outcome and the blog format of the course. The atmosphere was assessed by the group consistently as good or very good, while the methods, the own learning outcome, and the blog format were rated by 87.5% as good or very good, and by 12.5% as medium. In the *padlet* with its open questions, as strengths of the course among others the focus on Utopia was mentioned, as well as the practical application (i.e., the tools) and the built-in obligation to read the texts. The many small assignments were both listed under strengths and weaknesses. To the latter counted according to some students also the focus on gender instead of other categories of social inequality. The majority of the students assessed the blog positively, but some regarded the advantages in comparison to the well-known learning platform Moodle as too few to justify a new format. Some also wished for more live sessions and thus direct interaction. The results are not representative and were collected in addition to the usual evaluation on the part of the university, which was still pending at the time of the completion of the article.

Conclusion and outlook

With our didactical procedure, we have set out to counterweight the circumstances of the pandemic in manifold ways:

We wanted to respond to the hardships that accompany distance learning, private situation, loss of gainful work, increased care work, and possible illness by creating an accessible and attractive learning environment. Against the background of an international student body situated in various time zones, we chose an asynchronous setting accessible from all over the world at any time, so the students have the flexibility when to dedicate themselves to learning. In addition, we strived to design an attractive digital surrounding by creating a blog, a format familiar to a generation of digital natives. Not only should it contain all material necessary to successfully pass the course

but offer an inviting surrounding with video lectures, scientific and non-scientific texts, films and links, etc. In addition, by involving the students via blog posts, comments, contributions to silent discussions, by making their writings accessible to the plenary, and uploading their group presentations, we hoped to achieve a sense of collective ownership of the site, the course, and ultimately their Utopian futures. Smaller requirements spread throughout the semester should keep students on task and help with time management. Regularly offered digital live sessions followed didactic objectives but were also intended to compensate for the direct exchange that was sorely missed in times of social distancing and aimed at creating fertile ground for imagining and practicing solidarity in an unprecedentedly isolating time.

Concerning the content, our intention was to convey the necessary knowledge about Gender Mainstreaming and Anti-Discrimination, foster comprehension about underlying mechanisms and structures, making students familiar with application examples, and enable them to analyze these properly, before coming up with own examples and their critical evaluation (oriented on Bloom et al.'s taxonomy of educational objectives, 1956).

Equally important to us was, in times of crisis, not to focus exclusively on the numerous problematic aspects but to move beyond criticism and emphasize possible scopes for action. Inspired by Wibben et al. (2019), we built a continuous Utopian turn into the syllabus by including Utopian visions of international organizations, scientific considerations of Utopias as a method, the students' own Utopian musings, and the search for Utopian islands in the present. For our purpose, we adapted the method of the Future Workshop to the specific setting. Via turning to Utopias, our aim was to extend the boundaries of what is possible (to imagine) and to encourage students to look for ways to achieve this (better future). With this we positioned the course and the students within the genealogy of equality and feminist activists and practitioners who shaped Gender Mainstreaming and Anti-Discrimination as tools and approaches. Thus, we built bridges between what was and that which can be by supporting students to recognize that tools exist that might not be perfect but on the one hand can greatly contribute to utopian islands in the present and, on the other, were themselves initially conceived through Utopian imagination.

Central to this practice example is our philosophical perspective on teaching, which centers on education as *Bildung*, in Nida-Rümelin's (2016) sense. This means that for us, education is aimed at enabling students to take individual and collective responsibility for their lives and future, thus enabling them to construct their own perspectives on the current crises and ways to engage or even overcome these. The enabling of students is even more crucial in times when the world simultaneously seemed to have come to a standstill and spin ever faster, when even the imagination of future appeared an exhausting and scary exercise amidst a multitude of crises. In context of these overlapping and intersecting crises of our times, the Covid pandemic, but

also the climate emergency, mounting racialized violence, roll back of rights, etc. enabling students to imagine a future that is life and equality affirming is indispensable. Seeing possibility in crisis and encouraging utopian imagination, critical thinking and courage to enact change were central to our aim for enabling students to become authors of their own futures.

We also see an impetus for change in the crisis of conventional education amidst the pandemic and campus closures. Teaching during the pandemic, especially in higher education, has shown what is possible if there is need for quick adaptation. For the future, we hope that this impetus for change and new ways of engaging with Bildung and teaching practices will come from a place of courage, motivation, and curiosity instead of a reaction to crisis. This includes the courage to act for us as teachers and to engage with new media, new teaching, and learning tools as well as methods and see the crisis situation (at least) partly as an opportunity for enabling community building through Bildung in the digital age.

Notes

1. Her part of a collective article, see Wibben et al. (2019).
2. At this point, we would like to express our sincere gratitude to the staff of the E-Learning Centre of Rhine-Waal University for their encouragement, support, and ideas, especially to Birte Heidkamp-Kergel and Boris Hervé Foko Kamdem.
3. The image was a photograph of a colourful mural depicting three feminine looking faces at East Side Gallery memorial (a large section of the Berlin Wall) in Berlin, taken by one of the co-authors.
4. Video lectures were embedded in the blog and downloadable in order to ease the access for students with intermitted internet connections/access.

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Chapter 12

Teaching concepts

On the power of thinking in concepts in 21st-century learning and teaching

Thomas Heun

Introduction

This chapter advises the systematic orientation on teaching concepts to improve the quality of learning processes. A teaching concept is defined as a didactical idea that influences a seminar through its logical structure and that has been shown to fundamentally support the learning process. For the development of tailored teaching concepts, a process of conceptualization is proposed to stimulate conceptional creativity in education and to positively influence teaching practice. In this chapter, the example of researching learning in a digital environment is used to explain the idea and the power of a teaching concept.

When the Covid-19 pandemic suddenly impacted instruction at German Universities, lecturers seemed to reflexively search for technological solutions to transfer their established teaching practices to the digital world. Instead of reflecting on the specific challenges and opportunities of remote teaching, most lecturers were concerned with the technological and legal aspects of their established teaching methods. Many lecturers seemed to focus on identifying ways to transfer their lectures and written examinations to digital learning platforms instead of focusing on systemically optimizing their teaching practice to reach the full potential of digital learning. For example, the teaching concept of "flipped classroom" may have been strategically used to optimize remote learning processes and to transition students from group learning in schools to individual learning at home.

The low level of conceptional creativity shown by lecturers during the pandemic may be a result of the limited orientation they received on learning theories or reactionary tendencies during their education. Our study on the use of teaching concepts at German universities found that more than 70% of lecturers still teach using the traditional concept of lectures, while only 13% of lecturers have ever attempted the flipped classroom.[1] Lecturers and teachers may simply not be aware of the potential of a good match between the preconditions of a seminar and a good didactical idea (teaching concept).

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This chapter pleads for the systematic development of teaching concepts in education. Firstly, the term-teaching concept will be defined. Secondly, an outline on the process of conceptualization will be given. Thirdly, the approach of the teaching concept will be illustrated using the example of the first "Covid-19 semester" in 2020.

What is a teaching concept?

The term "concept" is very common in everyday language and in the education field, but what exactly is a "concept"? While a concept in everyday life is often more or less synonymous with an elaborated solution for a project challenge, concepts in other areas have more specific meanings. In the field of applied marketing, there is a long tradition of developing communication concepts. Here, a conceptional idea provides a holistic communicative mechanism in order to involve consumers in achieving the goals of a brand. In architecture, a concept is defined as a logical structure and the "substance that characterizes a project and that forms the character of its existence, manifested via the formal and material qualities of a constructed and realized opus" (Fusi, 2008, p. 10 (translated)). Both the marketing and architecture definitions of concept show a similar understanding for the function of a concept. A powerful concept includes a mechanism that connects a project challenge with a specific methodological structure (a logic). This structure does not automatically solve the project challenge, but it establishes a fundamental methodological mechanism toward a logical or strategic process for solving the project challenge.

In the field of educational theory, approaches such as "conceptualizations of learning" (Donaldson & Allen-Handy, 2019), "concept formation" (Taba, 1966), "teaching concepts" (Klausmeier, 1992) and "conceptional lenses" (Erickson, Lanning, & French, 2017) are respective. Conceptualizations of learning are used to identify learning and teaching practices that align with fundamental theoretical beliefs. The "construction" conceptualization of learning refers to the constructivist idea of learning with a focus on the learner's subjective experience and corresponding teaching methods (e.g., think-pair-share). Taba, Klausmeier, and Erickson et al. follow a content-wise logic when teaching toward the understanding of specific concepts. According to Erickson et al. (2017), concepts, such as "centrality" in statistics, are important mental constructs of disciplines. These concepts should be used to stimulate learners' thinking and to help build a deeper understanding of important mental constructs, which often cross disciplinary borders (such as mathematics).

Here, I espouse a different meaning for the term-teaching concept in education. A teaching concept is more than just a method. It provides a didactical solution and fundamentally influences the gestalt of a whole seminar. A teaching concept is a didactical idea that influences a seminar through its

logical structure and supports the learning process. The logical structure of a teaching concept is a system of inner relations between the four key seminar elements: determining factors, learning goals, content, and methods. The structure of a teaching concept leads to design principles, such as specific fields of competence or the ideal type roles of teachers and learners.

Example

The teaching concept of "researching learning" improves understanding as it puts learners into the role of researchers in a more or less predefined research process. Instructors provide students with direct research experiences that support learning goals, which may be modified as the students' methodological competencies grow. When a lecturer decides to utilize researching learning, the lecture content is reduced to only include useful method theories and data applications that will support the analytical journey of the students through their research process. Consistently, with researching learning, the relative amount of teaching is reduced as the role of the teacher transitions to a non-directive learning coach who enables students to find their own way through the research process.

There are many benefits of developing a tailored teaching concept. Firstly, it limits the methodological degrees of freedom and provides fundamental didactical orientation. Teaching concepts are often connected to didactical paradigms (e.g., constructivism) that incorporate fundamental methodological beliefs (e.g., learner activation). Secondly, teaching concepts establish basic structural principles (e.g., the completion of a scientific research process as part of researching learning) which set important decisions regarding the use of content and teaching methods. The content in terms of method theory should be limited to only the methods required to pass the process successfully. For example, if one decides to use the teaching concept of "project-oriented learning," the teaching methods used should focus on the activation of students to master the project challenge independently. Thirdly, teaching concepts often define the learning condition and the relationship between instructors and learners. Following the "belongingness hypothesis," the belief that quality relationships positively influence human motivation and well-being in general (Bergin & Bergin, 2009) as well as learning processes specifically (Hagenauer & Volet, 2014), a teaching concept as a didactical frame often outlines the roles of instructors and learners. Defining the roles of these parties is the first step toward a basic conceptualization of the relationship between the seminar's facilitator and its participants.

Figure 12.1 shows the Universe of Teaching Concepts.[2] It includes both the learning and teaching spectrums. While learning activity is differentiated along the social spectrum of learning, teaching is differentiated via the "teaching continuum" (Marschall & French, 2017, p. 8) and the role of the teacher on a spectrum of being more to less instructive.

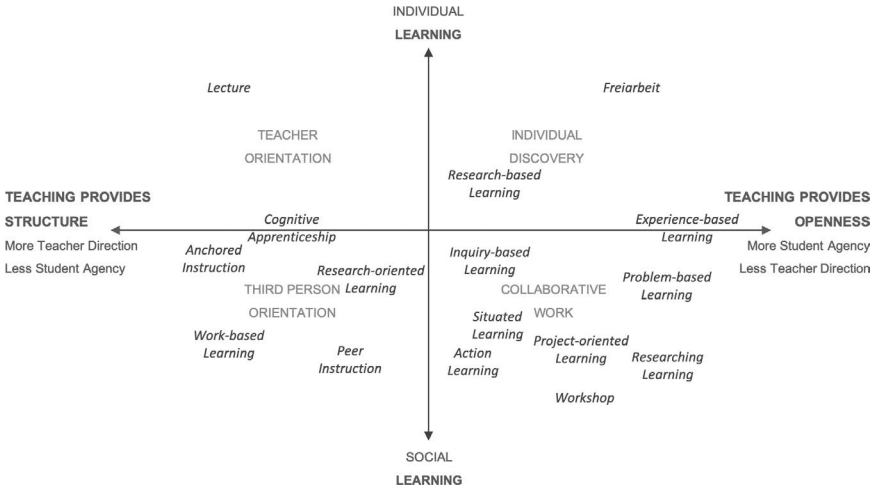


Figure 12.1 The universe of teaching concepts (showing selected examples).

How to develop a teaching concept in seven steps

The process of developing teaching concepts goes beyond the established ways of constructing seminars as its main goal is to develop an idea for a single methodological frame for teaching and learning. In doing so, the process of developing teaching concepts is both strategic and creative. Alternative approaches, such as constructive alignment (Biggs, 1996), suggest harmonizing main building blocks of seminars including objectives, teaching activities, and teaching assessments. These alternative approaches perhaps highlight the need to develop reflected teaching strategies. The conceptualization process goes beyond these strategic approaches when postulating the power of a tailored methodological solution for teaching on the basis of a set of strategic building blocks. In the following part, the conceptualization process is outlined. Figure 12.2 provides an overview on this process.

At the beginning of the process, for Step 1, teachers must clearly define the central topic or aim of the course. A good title provides clarity and orients all participants about the fundamental goal of the course. Step 2 addresses one of the most important aspects of teaching concepts, which is awareness of the specific circumstances of the learning and teaching environment. This general framework can be split in four parts. Firstly, the goal of the organization shall be considered. Teachers, lecturers, and coaches are hired by a specific organization to be part of that organization's educational mission. Consequently, their teaching activity is part of the organization's learning proposition to the learners. If lecturers are not made aware of their expectations by the organization, dissatisfaction and demotivation can arise among learners and negatively influence their

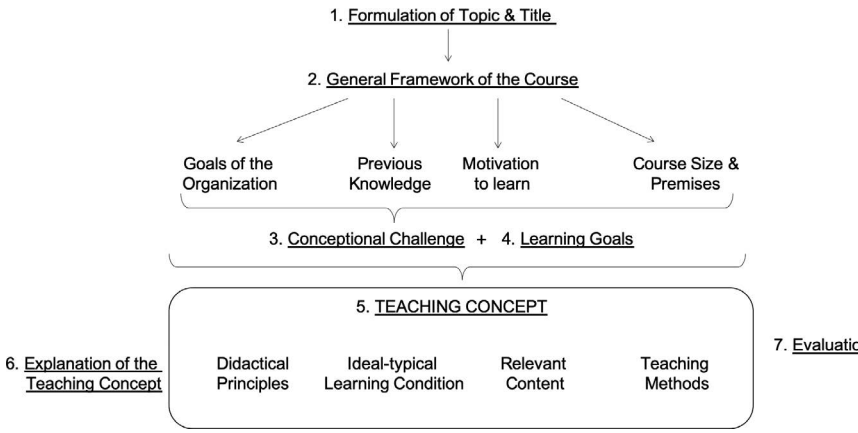


Figure 12.2 The conceptualization process of teaching concepts.

motivation to learn. Secondly, it is important to connect future learning material to what learners already know or have experienced. The impact of previous knowledge on learning is well documented (Alexander, 1996; Ausubel, 1968). Teachers benefit by being informed about the previous knowledge of their students because they can align new learning material to previous learning experiences, making it easier for learners to reconnect and get started. Thirdly, it is beneficial to be aware of the learners' motivation to learn and specific interests. The relationship between motivation and interest of learners and their willingness to actively participate is well documented (Dewey, 1913; Schiefele, 1991). The more that a course's material corresponds to the learners' interest, the more successful it will be in teaching understanding. Alternatively, the higher the level of intrinsic motivation and interest in the learning material, the more demanding a conceptual teaching approach can be. Fourthly, it is important to consider the factual information of the seminar. In particular, the number of learners in the course can greatly influence the teaching possibilities. The fewer the participants, the more flexible the teachers can be when it comes to choosing appropriate concepts. In addition to the number of learners, small or specific facilities can reduce the amount of freedom that teachers have when planning a seminar.

For Step 3, the conceptional challenge is essentially a summary of the specific circumstances of the seminar with a focus on the most challenging point. Here, lecturers identify the most critical aspect when facing the overall aim, framework, and learning goals of the course. During the development of the learning goals of the course, in Step 4, teachers become aware of what they are searching for when it comes to the organizational and structural method of the teaching concept. Learning goals focus the

attention of teachers and learners on the most important aspects of seminars and guide and structure teaching and learning activity.[3] In Step 5, the preparatory work ends and the development of a teaching concept begins. Figure 12.1 doesn't only provide an overview about concepts but also offers a fundamental orientation system to identify concepts following the criteria of the learning form (individual – social) and the teaching spectrum (instructive – passive).[4] As mentioned earlier, the process of conceptualizing a seminar is analytical and creative. In some cases, it is necessary to combine two or more concepts to create an appropriate concept for the specific conceptional challenge. The only guiding principle (and limitation) lays in developing a clear conceptional idea for a seminar that supports learning activity.

Step 6 includes building up an argumentation for choosing the concept and the elaboration of three key aspects of the concept. Firstly, once a teaching concept has been chosen, it should be possible to explain that choice from a didactical point of view. Here, the question of how the teaching concept supports the learning activity should be answered clearly. Secondly, the ideal type of learning condition should be named. Why is this important? On the one hand, learning requires that learners have a willingness to change or at least to be open toward new experiences. Teachers and lecturers can influence the attitude of learners toward learning via the learning condition. If teachers and learners manage to establish a seminar culture where every participant is treated with care and respect, the chance of creating a positive learning environment increases. On the other hand, the learning condition is often fundamentally defined by the concept itself. Some concepts, such as the lecture, are designed to transfer mainly factual information from a lecturer to a bigger audience. This idea leads to an asymmetrical relationship between the lecturer (expert) and the students (beginners). Thirdly, relevant content should be identified. Selecting the right content in terms of quality and quantity for a seminar is often a matter of discussion. Teachers should spend time on selecting content in consideration of the teaching concept, as some concepts guide the facilitator to a selective preselection of information. Fourthly, fundamental teaching methods should be established when selecting a teaching concept. This may not include every detail but should identify ideal type methods with a good fit to the specific teaching style and provide clear methodological orientation for teachers within the specific conceptual teaching framework.

The final step, Step 7, is evaluation. It proposes integrating a mechanism to generate information on the effects of the seminar on learners and applying the processes of quality management in education. According to the constructive alignment approach (Biggs, 1996), this information must be collected according to the specific goals of the seminar. Hence, a tailored evaluation system should be developed that measures constructs that are specific to the teaching concept and learning experience.

Example: Concept-based researching learning

In the following section, an example of a teaching concept will be explained using the concept development form. This form follows the logic of the seven steps as described above. The teaching concept was developed in March 2020 and was used in the study program of International Management & Psychology (M. Sc.) at Rhine-Waal University (Germany) during a remote teaching semester.

1 **Getting Started:** ***What is the main topic of the seminar?***
Seminar title: Advanced Qualitative Methods
2 **General Framework:** ***What are the main parameters of the seminar?***

a ***What are the fundamental goals of the organization?***
Rhine-Waal University is a university of applied sciences. This means that application orientation should be fundamentally considered. Additionally, as the study program combines the perspectives of two scientific disciplines (international management and psychology), both disciplines shall be represented in all courses.

b ***What about the previous knowledge of the students? What do they already know?***
Typically, the students who enter this master's program have a diverse background in terms of heritage (international students) and learning culture. Consequently, when it comes to previous knowledge about scientific research and methodological competencies, managing diversity remains a challenge. There will be very experienced students as well as absolute beginners who have only rudimentary knowledge and no primary empirical research experiences.

c ***What do you know about the motivation to learn of the participants***?
The students of the Master of Science program often have clear career goals when entering the study program. Compared to undergraduate students, their motivation to learn is above average.

d ***How many participants do you expect and what are the premises like***?
On average, we expect 30 students and that the participation rate will be high. Due to Covid-19 pandemic remote teaching, several learning platforms are available.

3 **Conceptional challenge:** ***What is the specific challenge of the course from a conceptional point of view***?
How is it possible to impart fundamental knowledge on qualitative methods and to enable students to run their own study in a virtual environment, taking differences in terms of previous knowledge and skills into account?
4 **Learning goals:** ***What shall learners learn exactly***?
Students shall …

- know the research process and be able to structure a research project on their own;
- know fundamental principles of qualitative research and interviewing;

- know how to operationalize a research question and be able to develop an interview guide for qualitative interviewing;
- know quality criteria for qualitative interviewing and be able to do qualitative interviews on their own; and
- be able to analyze qualitative data using a QDA software.

5 **Teaching concept:** ***Which concept(s) do you choose***?

- Project-oriented learning
- Researching learning (digital and collaborative)
- Concept-based inquiry

6 **Explanation of the concept idea**:

a ***How does the concept support a learner's ability to reach the learning goals***?

- Project-oriented learning integrates application orientation, direct research experiences, and student agency.
- Researching learning ensures the immediate application of factual knowledge and constant optimization around the methodological key challenges of the seminar. Digital and collaborative researching learning enables "connectivism" (Siemens, 2005) and peer-to-peer learning across different time zones.
- Concept-based inquiry supports the activation of students' thinking around key concepts (e.g., achieving breadth and depth during a qualitative interview). The concept does not rely on personal presence, and students can be activated via preformulated key questions (e.g., *How can we guarantee that we meet the requirements of a good conversation and explore the constructs holistically*? *How can you integrate interviewing techniques into our discussion guide to achieve breadth and depth*?).

b **Learning condition:** ***Which ideal type relationship between teachers and learners does the concept imply***?
All three concepts imply the lecturer's role of a "learning coach." As a coach, the lecturer structures and organizes the learning process fundamentally. Selected factual information will be provided and will have to be studied independently. The lecturer activates students' knowledge production by posting key questions on the web platform (see Figure 12.3).

c **Content:** ***What factual knowledge is required?*** **Teaching methods:** ***Which teaching methods will be used***?
Content: Content will be limited to theoretical foundations on the scientific research process, qualitative research, the in-depth interview, method theory on research tool development including psychological questioning techniques, and analytical procedures of the qualitative analysis including the use of QDA software (MAXQDA).

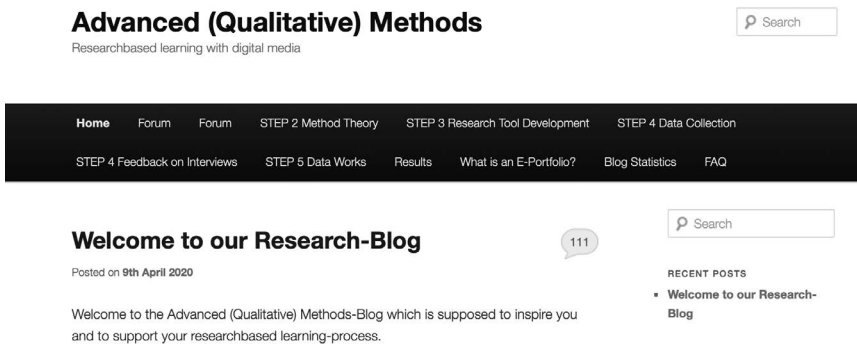


Figure 12.3 Main page of the seminar blog.

Teaching methods and tools: A WordPress-based research blog ("Seminar Blog") will be the main communication and information platform. The lecturer has the role of a moderator, ensuring broad student participation and fundamental orientation within the research process (Step 1–Step 5). Initial information on the seminar and the project task was provided via document upload on an internal learning platform (Moodle). Additionally, a weekly consultation hour via a video-conferencing tool was offered.

7 **Concept evaluation:** ***How do you evaluate the learning success of the course in general and of the teaching concept specifically***?
The summative evaluation of the teaching concept shows an overall positive effect on learning. To evaluate the progress in learning and the benefit of the teaching concept, the lecturer applied a multi-method approach. Firstly, the examination format of the E-Portfolio requested that the students document their individual knowledge production step-by-step. The majority of students were motivated to pass the course on time. A total number of 31 students (out of approximately 35) submitted their E-Portfolio on time. Secondly, the lecturer studied the transcripts of the students' interviews to determine whether they reached key learning goals. The transcripts showed that nearly all students developed key methodological skills. Additionally, the assessment of the E-Portfolios and the transcripts showed that students reached a higher level of methodological know-how compared to earlier student generations. Thirdly, a seminar-specific questionnaire was created to generate direct feedback from the participants on key evaluation criteria (see Figure 12.4). The results from this questionnaire show a positive tendency of approval across key evaluation criteria of the seminar, such as student agency, active collaboration, methodological skills, course climate, and so on. Fourthly, central measures of the seminar statistic underline

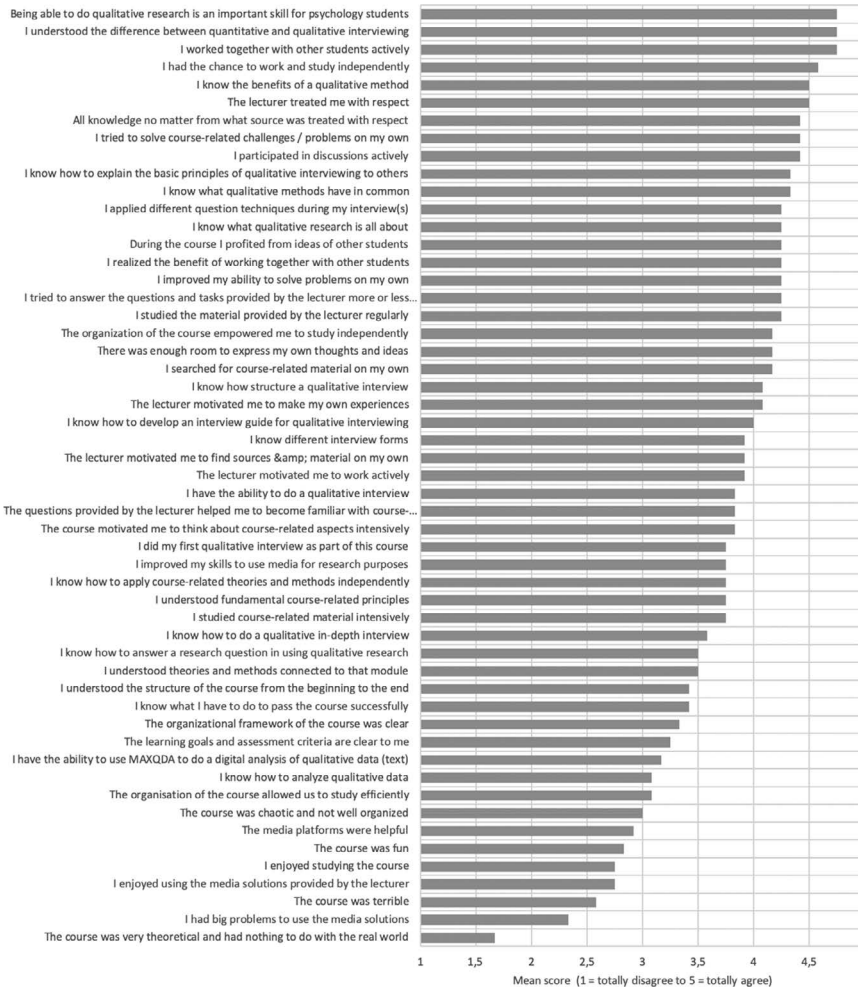


Figure 12.4 Overall evaluation of the seminar.[5]

that the teaching concept seemed to positively influence student learning. Specifically, active participation and collaboration seemed to work very well. At the end of the research process, a total of 630 blog posts were counted. Of these, 86% were written by students and only 14% by the lecturer.

Conclusion

One of the biggest challenges in teaching is the lack of conceptional creativity. Too often, lecturers and teachers stick to traditional forms of teaching that do not meet the requirements of contemporary learning environments.

The requirement of remote teaching due to the Covid-19 pandemic highlighted even more the necessity of tailored teaching solutions. The author recommends a systematic orientation on the development of teaching concepts to establish more effective learning processes in 21st-century learning environments. A teaching concept is a didactical idea that influences a seminar through its logical structure and supports the learning process fundamentally. The impact of a teaching concept can be defined as a fundamental methodological impact. A teaching concept ensures basic didactical orientation in terms of the learning process, roles, and condition as well as the role of the content and teaching methods. Instead of relying on established teaching concepts such as flipped classroom or researching learning, the author pleads for the systematic development of individualized teaching concepts to address specific challenges in education. To this end, a seven-step process of conceptualization has been developed in order to provide a clear structure and orientation for teachers and lecturers, beginning with the analysis of the individual framework of a seminar and ending with the evaluation of the learning experience.

Notes

1. Due to a representative study among lecturers at Northrhine Westphalia in 2016: lecture = 72.9%, project = 60.7%, researching learning = 50%, work-based learning = 37.7%, action learning = 18%, flipped classroom = 13.9%.
2. For more examples, see Heun (2021).
3. There are several learning goal taxonomies; the most frequently used seems the taxonomy of Bloom, Engelhart, Furst, Hill, and Krathwohl (1956).
4. A systematic presentation of more than 40 teaching concepts can be found in Heun (2021).
5. Twelve students participated in the study directly after the course ended.

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