RESEARCH PAPER

Educational Impulses for Redesigning (Online) Teaching in the Post-Pandemic World

A Discussion and Evaluation of Lessons Learned

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ABSTRACT

This article reflects on the challenge of online teaching from the perspective of media didactics, a perspective that gained prominence during the COVID-19 pandemic. The qualitative-reconstructive study reflects on 65 multidisciplinary papers written during the pandemic. Together, these studies empirically examine the challenges, achievements, and failures of the first large-scale experiment in university teaching during that time and include quantitative empirical studies and qualitative first-hand accounts from university lectures that document how scholars adapted their courses from on-campus teaching to online teaching. Many approaches are innovative and creative, while some are not really new, at least from the perspective of media education. Still, many teachers with limited exposure to media-based or online teaching pre-pandemic broke new ground in their individual teaching. Of course, learning is an individual process. Nevertheless, expectations that university teaching would be fundamentally redesigned were almost inevitably destined for disappointment due to the pandemic's suddenness, a lack of didactic knowledge, technical and organizational hurdles, and various other individual challenges.

It is now clear that the emergency online semesters have permanently changed university teaching. Learning from both successes and failures, this article proposes the design and development of good (online) teaching for post-pandemic times. It bases its proposals on the documented experiences of teachers, on empirical data, and on three practical examples.

1   Introduction

1.1 Digital Media as a Lifeline During Lockdown

Beginning in March 2020, universities spent two years in emergency online mode. More than at any previous time, classes, lectures, and conferences became online events. Committees and teams met in hybrid formats. Remote working became the new norm for university administrations as well as for scholarly work (Knaus, 2022; Lockee, 2021; Zhao, 2020). When universities switched to online teaching, they made an important contribution to health protection, simply because they had to. However, differing from the many social sectors where physical contact is unavoidable, universities were also particularly able to make that change. Of course, the so-called online semesters were viewed by many academics as challenging and sometimes even as an imposition (Arndt et al., 2020; Kaiser & Nonnenkamp, 2021; Keßler & Knaus, 2021; Klug & Seethaler, 2021; Schmidtberger et al., 2021). Indeed, academics in practical fields had to do without their workshops, laboratories, and field trips; academics in sports studies and the arts were unable to access their studios, rehearsal rooms, and training halls (Marquardt, 2022; Pätzold et al., 2021; Schmidt et al., 2021; Wieczorek & Roos, 2022). However, although these problems cast a significant shadow, there was also a tremendous amount of light. Indeed, university administrations solved most of the technical problems that stood in the way of online teaching within a single semester (Deimann, 2021; Keßler & Knaus, 2021; Lockee, 2021; Wohlfart et al., 2021). Most researchers and teachers overcame their initial unfamiliarity with technology and started transferring to virtual meetings (Estner et al., 2021; Kaiser & Nonnenkamp, 2021). As they adapted, most scholars were able to continue not only with their research and teaching, they were also able to discover new possibilities (Böhmer et al., 2022; Medina & Hestler, 2022; Schmidt et al., 2021; Wieczorek & Roos, 2022). The learning curve was steep for students, teachers, and administrators alike (Estner et al., 2021; Kerres & Buchner, 2022; Knaus, 2022; Lohner et al., 2021).

For many individuals – not only those in the teaching profession – the pandemic was challenging not only professionally and didactically but also personally (Arndt et al., 2020; Klug & Seethaler, 2021; Marquardt, 2022; Valentin, 2021). Some became ill themselves, and others lost family members and friends. Many felt socially isolated during the lockdowns (Arndt et al., 2020; Knaus, 2022; Valentin, 2021). These personal hardships make it difficult and perhaps somewhat inappropriate to speak of the pandemic as a stroke of good fortune for media education, or in terms of an experiment, even though it was undeniably experimental in terms of remote work and online teaching (Estner et al., 2021; Knaus, 2022; Reinmann, 2021). As such, invoking the notion of an experiment in describing the trials and tests conducted during the pandemic to develop online teaching is a less playful move than the terminology suggests. Personal hardship also had an effect on the ways that different individuals viewed online teaching and learning during the pandemic (Arndt et al., 2020; Klug & Seethaler, 2021; Schmidberger et al., 2022). For many, a certain negative bias towards online teaching and learning might have resulted from negative experiences unconnected with the success or otherwise of their online teaching. Nonetheless, whatever people's experiences, it is evident that social media and media in general contributed tremendously to connecting individuals and preventing them from suffering social isolation (Keßler & Knaus, 2021; Klug & Seethaler, 2021; Knaus, 2022; Valentin, 2021). This marked a stark contrast with the time of the Spanish flu, when individuals affected had virtually no comparable opportunities to connect easily with their friends and families (García, 1985). During the COVID-19 pandemic, media and online communication served to establish "communicative lifelines" between individuals (Knaus, 2022, p. 264). This finding is also true for education, calling attention to a fact often taken for granted and ignored in face-to-face contexts: Education, formation, and socialization are based on social interaction and communication (Collado-Valero et al., 2021; Deci & Ryan, 1985; Knaus, 2022). Education is a dynamic and interactive process that sees subjects reflexively engage with their social and material environment (Hurrelmann, 2006), and is a process that requires social interaction and communication, making learners sensitive to isolation (Deci & Ryan, 1985; Knaus, 2022). Communication in classes has traditionally evolved face to face. However, this was impossible over long periods during the pandemic. Therefore, there was a need to find alternative spaces for communication (Böhmer et al., 2022; Keßler & Knaus, 2021; Valentin, 2021). During the pandemic, most communication in schools and universities was based on online media. Networked online platforms were a logical choice because they have long been connecting people and enabling communication and participation regardless of location (Brüggemann et al., 2016; Knaus, 2016; Knaus, 2017). Video conferencing was often used for synchronous communication. Other web-based online tools, such as learning platforms, were used to add asynchronous communication elements. These mechanisms ensured classes could take place, and that teachers and students could stay in contact, guaranteeing physical distancing without producing social distance and individual isolation

(Knaus, 2022). Some teachers managed to maintain a relationship of trust with their students and established professional teaching-learning relationships with them (Knaus, 2022; Valentin, 2021). Notably, these were mainly teachers who already had extensive experience in media-based teaching in general and in distance learning in particular (Kaiser & Nonnenkamp, 2021; Mayrberger, 2021; Reinmann, 2021). Much like socializing in face-to-face situations, we can assume that building social relationships in virtual spaces is possible but requires a certain amount of practice (Kaiser & Nonnenkamp, 2021; Knaus, 2022; Mayrberger, 2021; Wohlfart et al., 2021). Although most individuals are familiar with social interaction in face-to-face situations, and teachers (in particular) are often adept at this due to their teaching experience, not all individuals were able to accumulate significant professional experience with virtual encounters (e.g., video conferences) before the pandemic (Kaiser & Nonnenkamp, 2021; Wohlfart et al., 2021). This might explain why some teachers described as problematic the lack of physical presence in classes of teachers and learners (Reinmann, 2021). Although synchronous communication was possible through online channels and even if many were grateful for certain advantages of online communication, such as local flexibility (Lockee, 2021; Rath & Maisenhölder, 2021; Schmidtberger et al., 2021) and environmental and climate protection (Knaus, 2022), some teachers continued to argue in favor of in-person interaction (Kaiser & Nonnenkamp, 2021; Klug & Seethaler, 2021; Valentin, 2021). It remains unclear how the pandemic and the emergency online semesters that it triggered will affect the future of education (Kerres & Buchner, 2022), but that it had an influence is beyond question (Bedenlier et al., 2021; Estner et al., 2021; Knaus, 2022; Lockee, 2021; Zhao, 2020).

1.2 Theory, Aim, and Sources of Experience Reports

The possibilities for media use and online teaching in universities have been and remain diverse and manifold: Digital media activate learners and enable experience-based, action-oriented, and cooperative learning (Kerres, 2018; Knaus & Engel, 2010–2020; Knaus, 2016). Digital media offer a wide range of learning strategies and flexible learning options (Lockee, 2021; Rath & Maisenhölder, 2021). Digital media also enable inter-university teaching and international seminars (Böhmer et al., 2022; Medina & Hestler, 2022; Knaus, 2022). They make it easier to attend meetings and permit academics to attend international conferences despite tight deadlines and without worrying about delayed flights or trains (Knaus, 2022). They allow for virtual fireside chats and lectures and enable lecturers to dispense with environmentally harmful travel (Keßler & Knaus, 2021). Now, several academic terms after the pandemic, we can observe that many practices established out of necessity during the emergency online semesters have transformed and become permanent fixtures in academic life (Bedenlier et al., 2021; Kerres & Buchner, 2022; Knaus, Junge, & Merz, 2022; Lockee, 2021). University teaching has certainly

witnessed significant and enduring change, a development that was not un-expected, at least from the perspective of teachers who had already accrued significant experience in media-based or media-supported teaching and who were therefore already convinced of its potential even prior to COVID-19. Indeed, most of the approaches viewed by scholars as beneficial during the pandemic were already well-established (e.g., Kerres, 2018; Mayrberger, 2021; Reinmann, 2021). From the perspective of media didactics, the era of media-supported university teaching did not begin with COVID-19 (Kerres, 2018; Knaus & Tulodziecki, 2023; Mayrberger, 2021; Reinmann, 2021).

Nonetheless, the pandemic challenged many conventions and accustomed approaches to scholarly work, including established methods of higher education teaching and learning (Kaiser & Nonnenkamp, 2021; Keßler & Knaus, 2021; Lockee, 2021; Reinmann, 2021; Zhao, 2020). Scholars of media education have also faced this challenge. Despite dealing with issues of media education and media didactics for many years, the emergency online semesters were also a challenge for my team. However, we were able to pursue our research and project work during that time relatively effectively. During the pandemic, we focused on documenting the progress and effectiveness of our work, reflected on the merits and demerits of online formats, and evaluated the reasons for the successes and failures experienced using media for teaching purposes. Although media education had long been addressing the digital transformation of society in general and the education system in particular (Knaus & Engel, 2010−2020), we now found ourselves in a position to engage in the practical, large-scale testing of approaches to learning with digital media. Many scholars made a practical contribution to this testing process, including many who had previously reflected only minimally on the potential of digital media (Bedenlier et al., 2021; Estner et al., 2021; Hauck-Thum, 2021; Kaiser & Nonnenkamp, 2021; Klug & Seethaler, 2021; Knaus, 2022; Köhler et al., 2021; Mayrberger, 2021; Medina & Hestler, 2022; Wohlfart et al., 2021).

Finding this to be a fascinating phenomenon, we initiated a publication project during the pandemic, with the aim of documenting scholars' qualitative *first-hand experiences* and collecting the first empirical studies on teaching during the pandemic. The publication project resulted in two online volumes of the LBzM (LBzM, 2021; LBzM, 2022) and a print book (Knaus, Merz, & Junge, 2022). Our plan was to find some initial answers to the question of how the many ideas and approaches developed in response to the pandemic could stimulate the development of teaching and learning after the pandemic and serve as a catalyst for media didactics and higher education didactics in universities, in scholarship, and in other teaching and learning contexts, as well as encourage media education research (Knaus, Junge, & Merz, 2021; Knaus, Merz, & Junge, 2022). This project was directed at scholars and teachers in schools as well as students and pedagogical practitioners. It invited them to not only reflect on their own experiences but also share their theoretical ideas and practical concepts. By publishing their responses, our intention was to document

their experiences and record them as valuable resources for post-pandemic times, ensuring that they would not be lost and that they might serve as a stimulus to develop future teaching and learning.

The multidisciplinary contributions that we have compiled discuss, evaluate, and document the collective experience of the online semesters. Most are lessons learned that present ideas and introduce innovative approaches to teaching and autonomous learning, as well as tried and tested creative ad hoc solutions developed by university lecturers during the pandemic. Many new concepts are media-based innovations that draw on digital approaches to both add to and challenge traditional teaching, implying the development or redesign of teaching in post-pandemic times (Knaus, 2022; Lockee, 2021; Reinmann, 2021; Zhao, 2020). Adding to this broad range of concepts and methods are empirical studies that evaluate the constraints and essential preconditions for successful online teaching (e.g., Kaiser & Nonnenkamp, 2021; Klug & Seethaler, 2021; Schmidberger et al., 2022). Some studies also allude to the hurdles that scholars and teachers had to overcome in translating, reconceptualizing, and redesigning concepts that had originally been designed for on-campus teaching (e.g., Ade-Thurow, 2021; Böhmer et al., 2022; Hauck-Thum, 2021; Köhler et al., 2021; Medina & Hestler, 2022; Wieczorek & Roos, 2022). Together with the conceptual and empirical studies, these testimonials illustrate the merits and demerits of digital-media-supported teaching. As such, these contributions provide us with food for thought about what the future of teaching and learning might look like. In this study, I take these practical testimonials and studies as a basis for a qualitative conceptual meta-study to identify and discuss the innovative impulses in educational design that support good teaching, especially good online teaching.

Given that it was the pandemic that bolstered the use of media for teaching purposes (Bedenlier et al., 2021; Estner et al., 2021; Lockee, 2021; Reinmann, 2021; Zhao, 2020), we may perceive the pandemic as a "catalyst" (Zhao, 2020, p. 29) or an important "turbo booster" (Estner et al., 2021, p. 1) for many crucial and overdue processes of change (Dittler & Kreidl, 2021; Kerres & Buchner, Mayrberger, 2021; 2022; Knaus, 2022; Reinmann, 2021; Zhao, 2020), both structurally and also personally. It was the devotion and creativity of many scholars that gave rise to new and fascinating teaching concepts (Knaus, 2022; LBzM, 2021; LBzM, 2022). That said, at present, the question remains as to which approaches will survive and become common in university teaching, and which of them will fall by the wayside (Kerres & Buchner, 2022; Lockee, 2021; Reinmann, 2021; Zhao, 2020). This article addresses this question by adopting a *qualitative-reconstructive meta-perspective*. It draws on qualitative (first-hand) experience reports given by scholars and teachers as well as on qualitative and quantitative empirical studies conducted during the pandemic to study what aspects of the new (or at least the newly acquired and tentatively applied) teaching approaches will remain from those teaching approaches developed during pandemic times (Section 2 provides a detailed

description of methods). Most of these reports and studies constitute responses to the above-mentioned call for contributions to the special issue of the online journal LBzM, "Teaching in the time of COVID-19: A discussion, evaluation and documentation," which was published on February 7, 2021. The allusion to the novel Love in the Time of Cholera (1985) is a deliberate reference to Gabriel García Márquez's famous story. As in García Márquez's narrative, we have had to deal with a phenomenon of progress that impacts society in a radical and fundamental way. We are currently experiencing drastic changes, with new technologies essentially challenging established forms of labor, economy, and mobility. At the same time, these changes are also fundamental insofar as we experience them anew, over and over again, with every major media innovation (Knaus et Al, 2023).

The call for papers attracted 65 responses, a surprisingly large number. These were subjected to peer review and then successively published in two sizeable volumes of the journal (LBzM, 2021; LBzM, 2022), as well as in book form (Knaus, Merz, & Junge, 2022). All articles are freely accessible, published under a Creative Commons License (CC-BY-NC-ND) to allow for further access and scholarly use. For the qualitative study presented here, I used this journal (as a data source) because it was the first journal to publish (first-hand) experience reports and comprehensive studies across disciplines and educational sectors during the pandemic. While the contributions were not all published at the same time, as the journal's editor I already had access to all of the contributions at the end of the call. Additionally, because all studies remain freely available, interested scholars have open access not only to further reading but also the sources underlying this paper's findings. Both these aspects – easy access and full transparency – are prerequisites for the qualitative-reconstructive meta-perspective, the methodological approach whose results are presented in the following pages.

It seems fair to say that the enormous response evidences a profound scholarly interest that reaches far beyond the boundaries of media education (or even, in particular, media didactics) and higher education. Many scholars from various disciplines seem to share the idea that beyond minor concerns with the instantaneous response of academia to a sudden external threat, "Teaching in the time of COVID-19" actually represents an invitation to reflect on a fundamental change in society that requires scrupulous scholarly attention (Knaus, 2022; Lockee, 2021; Zhao, 2020).

Before Section 3 presents the six key insights in six sub-sections, the following section first outlines the methods underlying this qualitative-reconstructive meta-perspective.

2 Methodology and Study Limitations

A formal quantitative meta-analysis poses a significant challenge to the data being evaluated, particularly considering their homogeneity and associated operational complexities (Glass, 1976). A formal analysis focused on statistical methods requires comparable constructs and standard variables (Cooper, 1982; Schnell et al., 1995). However, no such comparable constructs and consistently uniform variables were available, especially in the initial phase of the emergency online semesters. This was due to the diverse approaches used by the various stakeholders and educational organizations (Kerres & Buchner, 2022). As the results reveal, educational institutions are not uniform, and the challenges facing different subject areas cannot be directly compared (Bedenlier et al., 2021; Kerres & Buchner, 2022). Instead, the call yielded numerous personal and narrative accounts from teachers and students during this eventful time (LBzM, 2021; LBzM, 2022). It would be regrettable for this trove of creative solutions and experiences from schoolteachers and scholars to be left undocumented and unstudied simply because this huge but involuntary global experiment did not unfold under the standardized conditions that would normally enable quantitative analysis. Accordingly, this article intends to reconstruct these collected experiences and extracts and make accessible any essential insights to be gleaned from them. As such, the methodological approach does not represent a formal quantitative meta-analysis but instead corresponds to a qualitative-reconstructive approach (Bohnsack, 2014; Bohnsack & Geimer, 2019) that focuses on participation and practice (Moser, 2018).

This approach focuses not on the generalizability of findings leading to generalizable statements but rather on the bundling of phenomena or experiences (Bohnsack, 2014; Denzin, 1997; Denzin & Lincoln, 2011) or even design-based testing (Reinmann, 2021; Tulodziecki, 2018). For the present study, hermeneutically derived insights from unsystematized experience reports and practical observations may be discussed in conjunction with additional empirical studies and presented in the context of lessons learned. Although this approach does not yield generalizable and representative statements, it does provide a robust means for teachers of all kinds to reflect on their wide-ranging experiences and relate them to their own (pedagogical) actions (Knaus & Schmidt, 2020; Knaus, Schmidt, & Merz, 2023). This makes qualitative-reconstructive approaches and approaches with a focus on participation and practice – as well as educational action research or design-based research – highly important in educational science and media education (Bohnsack & Geimer, 2019; Knaus, 2017|2018|2019; Moser, 2018). Complemented by three practical examples, this meta-perspective intends to draw on an eventful period to give educators and teachers food for thought for their own teaching and educational activity going forward.

To encourage and promote the exchange of good teaching practices internationally, this study was written not in the original language of the contributions but in English. This is because an international dialogue on the very different experiences of individual countries remains inspiring and valuable due to the organizational and cultural differences involved, even though a systematic comparison based on the methodological limitations discussed is hardly feasible (Kerres & Buchner, 2022) and probably not meaningful. This is true not least because qualitative approaches may provide exceptional and unexpected insights that go beyond the verification or falsification of operationalizing hypotheses (Denzin, 1997; Denzin & Lincoln, 2011), making them particularly valuable for educational research (Bohnsack & Geimer, 2019; Knaus, 2017|2018|2019; Moser, 2018; Tulodziecki, 2018). We may hope that this broad accessibility will encourage studies from other countries, including research that is not only quantitative in nature, but also studies that qualitatively document experiences and new impulses for the future and compile findings regarding experiences from the time of the pandemic and different views on *good teaching*.

Having generally outlined the limitations of this study's underlying methodology, it is worth specifically noting the uniqueness of this involuntary and sudden experimental situation, which also presented personal challenges for many individuals, as mentioned in the introduction. Not least for this reason, I am aware that lessons learned during an emergency are not directly transferable to standard teaching in universities (Hodges et al., 2020; Kaiser & Nonnenkamp, 2021; Kerres & Buchner, 2022; Knaus, 2022; Reinmann, 2021). However, online teaching during the pandemic has reignited the debate about what constitutes good teaching, including in regular situations (Knaus, 2022; Lockee, 2021; Zhao, 2020), a debate that is long overdue (Reinmann, 2021). Interestingly, however, it was mostly the change in format and media that led to a critical and constructive dialogue within higher education didactics – as if the traditional offline lecture had always been unconditionally and inherently good, the successful go-to format that always worked and could be applied universally (Keßler & Knaus, 2021; Knaus, 2022).

This methodological discussion should not omit mention of the pragmatic reasons for the selection of the 65 studies referenced: As the editor of the journal, I had direct access to and thoroughly read all the studies in the context of the peer review and editing process. Because qualitative research concerns not generalizability but the reconstruction of collected experiences (Bohnsack, 2014; Denzin, 1997; Denzin & Lincoln, 2011), this pragmatic approach can be considered unproblematic.

3   Results

The following six subchapters detail the six key insights from the experience reports and present and discuss practical observations. The reports address the involuntary and sudden nature of this global teaching experiment and its associated challenges (3.1). They also consider the core problem of its very suddenness meaning that many established approaches from media didactics and higher education didactics could not be received (3.2). Reflecting personal experiences of mine, three subchapters individually discuss certain teaching methods that were frequently mentioned in the experience reports in terms of the possibility of cross-university teaching (3.3), the opportunities for activating student self-responsibility using flipped classrooms (3.5), and the challenges associated with offering suitable teaching programs for increasingly heterogeneous target groups (3.6). In the subsequent discussion on hybrid teaching and new blended learning formats in Section 4, I permit myself the revival of a twenty-year-old idea before Section 5 concludes by identifying desirable goals for research and practice that might promote teaching in a post-pandemic world.

3.1 Without Prior Warning: Jump into the River… And Learn to Swim

An examination of the experience reports shows that teachers catered to the learning needs of students during lockdowns by utilizing a range of online digital media (Knaus, Junge, & Merz, 2021). Many university lecturers added audio tracks to their PowerPoint presentations to support learning, made video tutorials, or posted videos of their lectures online or on learning management systems. Different teachers evidently had different preferences regarding the platforms and formats chosen, with their choices often correlating with the prevalent choices of their respective disciplines. For example, in law and economics as well as in natural and human sciences, many teachers preferred to post videos of their classes on the internet or on learning management systems and thus relied more on asynchronous formats. Meanwhile, in the humanities and social studies, many teachers preferred synchronous formats, which enabled them to discuss learning content with their students online (Bedenlier et al., 2021; Bond et al., 2020; Knaus, Junge, & Merz, 2021). Synchronous online formats also inspired many university lecturers to develop their own didactic approaches to support interaction between teachers and learners as well as among students and to encourage their joint work on texts or other objects of study (Knaus, Junge, & Merz, 2021; Knaus, 2022; Valentin, 2021).

The experience reports also demonstrate that many lecturers were fairly successful at adapting to online teaching. However, the overwhelming majority of experience reports state that redesigning approaches developed for classroom teaching to fit online formats and the development of new concepts for online teaching represented a huge amount of work. In particular, the redesign of learning material was very time-consuming for lecturers (Epp, 2021). Although many lecturers stated that they were able to teach successfully during the pandemic, they also acknowledge that they found online teaching to be more exhausting than regular classroom teaching (Epp, 2021; Schmidberger et al., 2022). We can assume that this experience was particularly pronounced because teachers had to develop new teaching concepts at the same time as having to become proficient with the new learning tools (Köhler et al., 2021). In addition, they had to quickly establish a functional technical setting for their teaching (Arndt et al., 2020; Estner et al., 2021; Knaus, Junge, & Merz, 2021). Understandably, many teachers initially felt unsure about how to use the various learning management systems and video conferencing applications (Kaiser & Nonnenkamp, 2021; Köhler et al., 2021). Needless to say, many of these systems remain unnecessarily complicated and unintuitive to use (Knaus, 2017). Nonetheless, most teachers overcame their technical uncertainties relatively quickly (Deimann, 2021; Keßler & Knaus, 2021; Lockee, 2021; Wohlfart et al., 2021), and as they continued to gain experience with the technical hurdles of online teaching, they also adapted their didactic concepts to meet the challenges of online teaching, including its technical limitations.

However, other lecturers were more resistant to adapting to online teaching. Many lecturers who, in their first online terms, established the practice of merely uploading their manuscripts to the learning management system or sending scanned worksheets to students by e-mail, often continued to adhere to this practice during the pandemic and continued to do so into the third emergency online semester (Klug & Seethaler, 2021; Schmidberger et al., 2022). Subsequently, these teachers frequently highlighted deficiencies in online teaching and demanded an urgent return to traditional on-campus and in-person classroom formats (Bauer, 2021). Examining the reasons for these different experiences with online teaching, it seems fair to say that these lecturers did not reject media-based or online formats for no reason but probably did so due to a lack of individual didactic knowledge and media skills (Kaiser & Nonnenkamp, 2021; Reinmann et al., 2014). Consequently, their major reliance on asynchronous formats, which seem easier to handle technically, was also a source of frustration. In contrast, synchronous formats seemingly support interaction and allow teachers and learners to be involved and engaged with each other. As such, it is fair to assume that formats that allow for more interaction among teachers and students not only support learners but also teachers in staying focused and motivated (Estner et al., 2021; Knaus, 2022; Marci-Boehncke & Rath, 2022; Lohner et al., 2021).

One technical hurdle in the early days of the pandemic was that learning management systems and video conferencing tools revealed their capacity limitations as lecturers and students flooded the platforms (Deimann, 2021; Keßler & Knaus, 2021; Lockee, 2021; Wohlfart et al., 2021). This resulted in manifold technical issues obstructing teaching. Similar challenges were experienced in the context of learning management systems. For example, Moodle had previously been used merely as a simple, structured storage facility for PDFs and other learning materials but was suddenly being used to present complex course structures and provide students with comprehensive access to coursework, including texts, videos, FAQs, and interactive learning tools (Keßler & Knaus, 2021). This rapid change in platform use increased demands on the product's servers. Despite significant challenges, university IT and eLearning departments were able to solve most of these performance problems during the first online semesters (Deimann, 2021; Estner et al., 2021; Keßler & Knaus, 2021; Lockee, 2021; Wohlfart et al., 2021).

The various contributions and teacher responses to developments over the course of the pandemic give the impression that, by the start of the second online semester, most university lecturers and students were already more confident in dealing with online approaches to teaching and learning and had become much more confident of finding their way around the new virtual learning spaces (Knaus, Junge, & Merz, 2022). Overall, by that time, teachers had seemingly advanced their competencies for incorporating media-based elements into their teaching and gained a more comprehensive idea of the merits and demerits of media- and online-supported remote teaching (Bedenlier et al., 2021; Estner et al., 2021; Knaus, Junge, & Merz, 2022; Wohlfart et al., 2021). However, the contributions also reveal that some teachers remained fundamentally skeptical toward the use of digital media in education (Knaus, Junge, & Merz, 2021; Knaus, Junge, & Merz, 2022; Schmidberger et al., 2022). Although we can assume that these lecturers had become acquainted with digital media and had discovered their potential for teaching purposes, they found the regular use of digital media to be too much of a challenge for their teaching (Epp, 2021) and evidently did not consider it useful, probably for the very same reason that they found the use of digital media challenging.

3.2 History Repeating Itself: Established Approaches from Media and Higher Education Didactics Not Received

When the first emergency online semester commenced in the spring of 2020, lecturers versed in the use of innovative teaching formats did not prepare their classes from scratch, instead frequently referring to tried and tested methods, such as the *flipped classroom* (Collado-Valero et al., 2021; Handke & Sperl, 2012; Marci-Boehncke & Rath, 2022). They also drew on established formats such as audio-visual learning material and video tutorials (Ade-Thurow,

2021; Ade & Pohlmann-Rother, 2021; Knaus & Valentin, 2016). Until then, these teaching methods and formats had mostly been used by a small group of media-enthusiastic and didactically experienced teachers (Arndt et al., 2020; Kaiser & Nonnenkamp, 2021; Mayrberger, 2021; Reinmann, 2021). Although they are now more commonplace, it remains a matter of debate why this took such a long time. As an educationalist specializing in media education and educational technology, I had been working at the intersection of media education and educational technology for two decades when the pandemic hit. My work focuses on the competencies that teachers and learners require in a society increasingly shaped by digital media (Knaus, 2017; Knaus, Merz, & Junge, 2023). I had also been focusing on identifying concepts and strategies best suited to using media to improve school and university teaching (Knaus & Engel, 2010–2020). For this reason, it was something of a mystery to me why university lecturers did not turn to the countless conceptual recommendations and established teaching methods offered by media and higher education didactics to prepare their teaching in the early days of the pandemic.

Instead, the rather hasty start to the first online semester saw the elaborate concepts and documented experiences developed through relevant scholarship remain largely unused in favor of a rushed and sometimes naive transfer of traditional classroom concepts to online formats. Some teachers simply streamed their lectures and provided their students with comprehensive reading material to download (Lohner et al., 2021), often at the cost of interaction and feedback (Estner et al., 2021; Klug & Seethaler, 2021; Knaus, 2022; Lohner et al., 2021). This lack of interaction prompted many students to switch off their cameras during online classes (Marci-Boehncke & Rath, 2022), behavior that many teachers interpreted as a lack of interest (Lohner et al., 2021), which might have been true in many cases, with many students reporting dissatisfaction with online teaching in that first online semester (Arndt et al., 2020; Klug & Seethaler, 2021; Köhler et al., 2021; Schmidberger et al., 2022). Consequently, other teachers who were eager to establish synchronous and interactive teaching had a hard time motivating students to turn on their cameras and engage in collaborative activities in class (Klug & Seethaler, 2021; Knaus, 2022; Valentin, 2021).

Another problem seemed to derive from the fact that many lecturers were certain they would soon be teaching on campus again. Consequently, they invested little thought in more suitable didactic settings, especially during the first online semester. This group of teachers represented the main critical voices claiming that good online teaching would be inoperable, a group that did not invest any great effort in developing feasible online formats (Keßler & Knaus, 2021). Teachers who had only just begun to study the new opportunities offered by online teaching – doing so superficially or without any great enthusiasm – joined the critical camp (Kaiser & Nonnenkamp, 2021). The short notice teachers received before having to change to online formats combined with a lack of prior didactical knowledge about online teaching and the other

difficulties mentioned to preclude many lecturers from a positive experience of online teaching. However, there were also lecturers who, by the second emergency online semester at the latest, engaged more intensively with the didactic challenges of remote teaching (Knaus, Junge, & Merz, 2022). Some developed didactic skills out of increased interest in the matter, while others pushed ahead in response to their dissatisfaction with the hectically planned first emergency online semester. Over the course of the pandemic-related on-line terms, there was a steady increase in the number of teachers who gained their initial and (often) positive experience with media-supported university teaching (Bedenlier et al., 2021; Estner et al., 2021; Knaus, Junge, & Merz, 2022; Wohlfart et al., 2021).

We should not gloss over the fact that most education and higher education institutions were inadequately prepared for the unexpected shift to online teaching (Deimann, 2021; Wohlfart et al., 2021). The sudden change to online formats exposed many problems, such as teachers' limited experience and insufficient competencies in dealing with online formats (Kaiser & Nonnen-kamp, 2021), and there were also challenges experienced by learners in this context (Arndt et al., 2020; Klug & Seethaler, 2021; Schmidtberger et al., 2021). These issues were exacerbated by teachers' inexperience with tech-nology, inadequate technical equipment in educational institutions (Ballnus & Schiemann, 2022; Deimann, 2021; Estner et al., 2021), organizational and legal uncertainties alongside inflexible options for action (Keßler & Knaus, 2021), and a lack of support systems (Deimann, 2021; Estner et al., 2021; Knaus, 2022). Many of these difficulties could easily have been addressed earlier if educational institutions had initiated digital change earlier (Knaus & Engel, 2010–2020) and had better positioned themselves in terms of equip-ment and pedagogical reflection. Indeed, had the education system been better prepared, there might have been significantly fewer cancelled classes in schools, and the necessary reorganization processes at universities might have been less drastic (Knaus, Junge, & Merz, 2021). This is underscored by exam-ples from neighboring countries that provide impressive proof, as do regional flagship projects at educational institutions, of schools that had been using a common learning platform for several years when the pandemic hit (Ballnus & Schiemann, 2022). These institutions were able to switch to the online mode with comparative ease. Still, despite the setbacks confronting institutions, teachers, and students, particularly during the early stages of online teaching, it is clear that many teachers addressed these challenges well. Many dealt with them creatively and supported each other in addressing them (Knaus, Junge, & Merz, 2021; Knaus, Junge, & Merz, 2022). That said, human beings, as well as institutions, have the capacity to learn not merely from success but also from failure. Thus, the difficulties that universities encountered during the pandemic represent a starting point for considering how improvements might be made in general (Lockee, 2021; Zhao, 2020). This has made many teachers determined to implement the new concepts learned during the pandemic into their regular teaching program (Estner et al., 2021; Knaus, Merz, & Junge, 2022; Medina

& Hestler, 2022; Wohlfart et al., 2021). From a media didactics perspective, it comes as little surprise that a concept such as *blended learning*, which was already being used successfully at some universities before the pandemic, has now found an even wider fan base among teachers and learners (Collado-Valero et al., 2021; Handke & Sperl, 2012; Knaus & Tulodziecki, 2023). This suggests that there is good reason for universities to advance their institutional learning in the context of online teaching (Lockee, 2021; Zhao, 2020).

3.3 Working Together: Teaching and Learning Across Universities and National Borders

Cross-university courses existed long before the pandemic. However, when the pandemic forced universities to reorganize most of their courses as remote learning, many scholars took advantage of the situation and used their seminars and lectures as networking events that would allow them to connect with colleagues from other universities (Böhmer et al., 2022; Keßler & Knaus, 2021; Knaus, 2022; Marci-Boehncke & Rath, 2022; Medina & Hestler, 2022). These cross-university and even, in some cases, transnational events were also particularly attractive for students, who discovered that the online format enabled them to connect easily with seminar groups from other universities and even from other countries. These convenient online encounters created friendships across universities and national borders and served as icebreakers that motivated students to spend a term abroad. Some students even spent an Erasmus exchange term abroad virtually (or under blended mobility conditions) without leaving the country. Although this is certainly not the typical Erasmus experience and cannot replace time spent studying abroad, many of these students viewed the ease with which they were able to study in a different culture and academic environment very positively, often connecting it with the wish to visit their exchange university physically later in their studies.

Cross-university courses and international teaching online also advanced academic collaboration between scholars during the pandemic (Böhmer et al., 2022; Keßler & Knaus, 2021; Knaus, 2022; Medina & Hestler, 2022). As the online semesters during the pandemic progressed, scholars made increasing use of online formats to invite international experts and academics from other universities to participate in their courses and online conferences. In certain cases, scholars even managed to contact renowned scholars who are normally hard to book for a lecture or a discussion owing to their busy schedule. Thus, online teaching has not only changed academic teaching; it has also revitalized academic exchange between scholars (Böhmer et al., 2022; Knaus, 2022; Medina & Hestler, 2022). The effects of this development remain visible today, as evidenced by conference programs and cross-location lecture series. In fact, the most surprising outcome is that there are not more cross-university and transnational events. Online formats have made it much easier for speak-

ers and participants alike to attend conferences. Many scholars now participate more frequently in national or international conferences or lecture series because they no longer demand time-consuming journeys, travel expenses, or associated administrative work (Knaus, 2022). This is particularly true for international venues, which used to require long and environmentally harmful journeys. Today, in post-pandemic times, scholars' willingness to contribute to or participate in a conference or a cross-university teaching event is higher if it does not involve long-distance travel, jet lag, or complicated travel expense forms. Of course, opportunities to meet online should not replace every face-to-face discussion and personal interaction, but academic exchange can only benefit from this additional opportunity.

3.4 Promote Active Self-Learning: Just *Flip* the Class

What would teaching be like if participants could watch a video of a lecture before the actual class, note down their questions and discuss them with other students in a synchronous session, whether in a seminar at university or via video conference? This scenario is possible thanks to the didactically adept iteration of blended learning that combines asynchronous and synchronous teaching elements. From a learning theory perspective (Reich, 2008; Siebert, 2005), this combination is ideal because it promotes individually self-controlled learning (Collado-Valero et al., 2021; Handke & Sperl, 2012; Schmidtberger et al., 2021; Rath & Maisenhölder, 2021). Strictly speaking, we may understand all learning to constitute a self-directed endeavor because learning is an individual's autopoietic construction of their own experience. Thus, learning is always dependent on previously learned and lived experiences (Reich, 2008; Siebert, 2005). In this sense, a student's own engagement with learning content is tremendously helpful for sharpening their critical thinking and fostering their problem-solving skills (Knaus, 2022; Knaus et AI, 2023). Although individualized learning requires students to be more intrinsically motivated and to adopt greater responsibility for their learning (Klug & Seethaler, 2021), it may also be viewed as an important contributor to educational equity. This is because students with different starting positions and backgrounds are given the opportunity to learn in a way that suits them best as individuals (Deimann, 2021; Lockee, 2021; Rath & Maisenhölder, 2021; Röwert et al., 2017; Schmidtberger et al., 2021).

Having presented some conceptual thoughts on the flipped classroom, I would now like to share my own experience briefly. One of the personal challenges that I faced during the first pandemic-related online term was my introductory lecture, which I offer every semester to a fairly large learning group. My team and I are accountable for ensuring that each of our university's 6,000 education students becomes acquainted with the theoretical concepts of media education. We give lectures and seminars that provide the students with practical

knowledge for working with media effectively in contexts including schools, cultural education, youth work, and social work. The mandatory inclusion of media education in all study programs is a great boon for me as a media educator. However, it also requires that we offer lectures and seminars for over 600 students each term. Consequently, some 400 students enroll for my lecture every term. Of course, it is questionable whether a lecture of such proportions is the optimal way to enhance media literacy among students. What I can do is furnish students with the fundamental theories and concepts and discuss with them one or more examples from educational practice. However, this is insufficient preparation for ensuring that future educators can employ media critically, confidently, and autonomously in their future teaching.

One helpful formatting approach involves adding corresponding seminars to the lecture. That is, the lecture presents the key theories and concepts, and the parallel seminars allow the students to work in small groups to explore, discuss, and reflect upon what they have learned in an action-oriented way and with a practical thrust. Although this would be a great concept for my university too, with 400 students in the lecture and seminar participation limited to 40 to 50 participants, this would require us to offer eight to ten additional seminars. It is unrealistic to expect the university to finance these additional courses. As such, while it is excellent that media education represents an essential part of all our degree programs, universities must allocate sufficient staffing and funding to ensure that students receive appropriate training and a suitable environment in which to consolidate their learning.

This explains why I have been keen to reshape my introductory lecture for quite some time, and I was finally encouraged to do so in February 2020, when we all started wondering how to organize that first emergency online semester. The flipped classroom model allowed me to develop an interactive course despite the large number of students in attendance. Recognizing that a lecture conducted as a video conference seemed to make little sense for me or the students, it seemed less than ideal to replace my regular lecture in the large auditorium by streaming it over Zoom. Fortunately, however, I had been recording videos of my lectures for some time in anticipation of using them as short clips for a master's seminar. Some years before, I had already reorganized that master's seminar as a flipped classroom, a term describing a teaching method involving flipping the teaching of course content and homework (Handke & Sperl, 2012). In regular classes, the teacher is responsible for teaching content, and the students are responsible for revising this content at home. In a flipped classroom, the students are responsible for preparing the content at home, spending class time asking clarifying questions and discussing critical or current topics. Notably, this method has been standard in university seminars for a long time: Students read a text at home and discuss it in class. In my master's seminar and, as is common in the flipped classroom, I supplemented these texts with video material, providing the students with video clips of lectures and talks on the learning management platform (i.e.,

Moodle). Based on these videos and additional reading, the students then prepared the online meetings. In the seminar sessions, we critically discussed key aspects of each topic.

During the emergency online terms, I was able to conduct this master's seminar without making too many changes. I found that it made little difference if class meetings took place on-campus or online. The video conference software proved to be highly effective for discussions in seminar groups. Instead of working on written research papers, I also encouraged the students to produce their own videos, for example, in the style of tutorials (Knaus & Valentin, 2016). They worked intensively on each topic, and their fellow students profited from these videos as well.

My positive experiences with this course inspired me to test this concept in a slightly modified form for the larger introductory lecture. I uploaded the recordings of my previous lectures to YouTube (www.youtube.de/c/ThomasKnaus), created a link to the videos for each session on the learning management platform Moodle, and supplemented the existing documents with additional literature. Admittedly, the recordings of my lectures are far from perfect. I would not have uploaded them to the internet if we had not been working under exceptional circumstances. However, under COVID conditions, even less-than-high-quality videos proved better than no videos at all. Subsequently, over the course of the term, I regularly met the 400 students participating in the course on Zoom. I used the plenary sessions to answer any remaining questions about the videos and the reading material. What amazed me was that after some hesitation, increasing numbers of students found the courage to ask and answer questions in front of this large body of fellow students. Some preferred to use the chat function to pose their questions, which worked just as well. Following the first few minutes of each course, which we spent together answering general questions, I dispatched the students into 30 to 50 breakout rooms to work in small groups. Later, we discussed the results of this group work in the plenum. I assigned students to the breakout rooms randomly so that they would have the chance to get to know each other a little over the duration of the course. Each session, we had two or three of these discussion phases. The new format allowed me to motivate the students to work more intensively on the topics. It was my impression that they were working with greater interest and insight on the material than in the previous sessions. Of course, there were some students among the 400 who were, at best, only interested in listening to the others and who refused to participate in the breakout rooms. However, students asleep with their heads on their desks is not an unknown phenomenon in standard on-campus classes. That said, the overall feedback provided by the students confirms the positive outcomes thus far (https://www.meinprof.de/knaus).

Although the concept of the flipped lecture is inspired by the classic seminar method – we read or work on something beforehand and talk about it later – and the teaching method of the flipped classroom has been well-established in higher education didactics for several years (Collado-Valero et al., 2021; Handke & Sperl, 2012; Knaus & Tulodziecki, 2023), the separation of information transfer and interactive discussion as a tool for fostering learning in a video conference context has thus far only been used to a relatively limited extent in teaching at universities (Knaus & Tulodziecki, 2023; Marci-Boehncke & Rath, 2022). This is surprising given that this teaching concept has proven particularly suitable for online teaching (Knaus, 2022). Even more surprisingly, a minority of teachers decided to offer their courses as flipped classrooms during the pandemic-related emergency online semesters or otherwise transferred the concept to other teaching formats. I want to encourage fellow teachers to try this method. In the interests of effective learning, it is imperative that students be provided with formats that they can use to discuss learning content with each other. Speaking from experience, active discussion is key (especially in the humanities and social studies), although it seems to be non-critical whether this essential synchronous exchange on a topic takes place in a physical or virtual room (Knaus, 2022).

3.5 After the Storm: Hybrid Teaching and New Blended Learning Formats

During the period when pandemic restrictions were lifted, hybrid formats became increasingly popular (Reinmann, 2021; Stoppe & Knaus, 2022). Universities were widely expected to continue giving vulnerable or sick students the opportunity to study online, and hybrid and blended-learning formats benefited students caring for elderly relatives or children (Rath & Maisenhölder, 2021). However, at the same time, lecturers were also expected to welcome students back to classes on campus (Bauer, 2021). These mixed expectations proved to be challenging because effective hybrid teaching requires an array of technical equipment, equipment not every university possessed at the time (Stoppe & Knaus, 2022). In addition, to successfully facilitate hybrid meetings, teachers ideally need to have some proficiency with the format because they have to address the students in the room and the participants in the online meeting at the same time. It is challenging to encourage two groups of students in different rooms – a physical and a virtual one – in a way that fosters the learning of both groups (Stoppe & Knaus, 2022). Many of the first attempts at offering hybrid lectures and seminars came to an abrupt halt at the end of 2021 and in early 2022, with the pandemic forcing most teaching back to full emergency online mode. Needless to say, many teachers were rather relieved to change to this mode, with the lack of technical equipment and support at their universities having made their hybrid attempts rather difficult and often frustrating (Ballnus & Schiemann, 2022; Estner et al., 2021; Stoppe

& Knaus, 2022). These events demonstrated that it is usually easier to moderate the discussion of a learning group in one shared room, whether physical or virtual, because this requires a delicate balancing act to stimulate discussion between members of two groups in two different learning spaces (Knaus, 2022; Stoppe & Knaus, 2022).

Of course, hybrid meetings do work rather well with formats such as lectures, where talking is mostly done by one person and in a unidirectional way. Streaming a lecture does not essentially require learning groups to interact with each other, which makes hybrid classes easy (Knaus, 2022). However, the core format of university teaching requires discourse between teachers and students (Derrida, 2001). For this reason, pandemic times saw many teachers remain skeptical of so-called digital teaching based on their problematic experience with hybrid classes. This skepticism is justified whenever hybrid formats encourage teachers to return to unidirectional and less interactive teaching. However, it is primarily a technical deficit that creates this regression to less interactive formats; consequently, this does not tell us much about the potential of hybrid formats as such (Reinmann, 2021; Stoppe & Knaus, 2022).

A negative view of online teaching that is often due to disappointing experiences with hybrid formats can obscure positive findings, namely, that online media and hybrid formats have helped immeasurably to open up learning spaces to a wider audience and effectively broaden learning possibilities. New and enlarged learning spaces provide unique potential for discursive university teaching, collaborative learning, and active participation (Knaus, 2017; Knaus, 2022; Lockee, 2021; Lohner et al., 2021; Marci-Boehncke & Rath, 2022; Rath & Maisenhölder, 2021; Stoppe & Knaus, 2022; Zhao, 2020). Some debates seem to undervalue these new possibilities, especially when the quality of online teaching is reduced to a comparison with in-person teaching. Online teaching and hybrid teaching have their own didactic potential, as well as their own difficulties (Reinmann, 2021; Stoppe & Knaus, 2022). Although hybrid teaching is possible in principle, it requires suitable technology, more extensive moderation skills, and (not least of all) some practice (Stoppe & Knaus, 2022).

3.6 Heterogeneous Target Groups: New Opportunities for Diversified Teaching

It is crucial to rethink and develop teaching based on teachers' experiences with alternative teaching formats during the pandemic, not only because new pandemic situations and similar challenges may occur in the future, but also because lecturers and learners have experienced the many benefits of the new approaches to teaching over the last couple of years (Zhao, 2020). Therefore, they can also rightfully expect to profit from these lessons in the future (Rath & Maisenhölder, 2021; Reinmann, 2021; Schmidberger et al., 2022). This de-

bate concerns not only easy access to learning spaces, such as less travel and more flexibility to work through learning material in an asynchronous setting (Klug & Seethaler, 2021; Lockee, 2021; Schmidberger et al., 2022). It is rather more profound, also touching upon ethical issues. In public discourse, online teaching continues to encounter many prejudices that consider it somewhat inferior to on-campus teaching. However, from an ethical perspective, it is only right and fair to examine the limitations and weaknesses of teaching formats that are exclusively offered offline, that is, on campus (Knaus, 2022; Rath & Maisenhölder, 2021). There is an evident exclusive quality to these formats: they exclude those students who cannot travel to a particular learning space, whether for reasons of economy, health, time, or other personal circumstances. Universities demanding that teaching take place on campus neglect the potential of online formats, with many traditional German universities now even proudly calling themselves "Präsenzuniversitäten" [on-campus universities] (Bauer, 2021). However, they must ask themselves why they are neglecting the growing number of students they might reach via online or hybrid formats (Knaus, 2022; Rath & Maisenhölder, 2021). Online universities – such as the FernUniversität Hagen and the International University (IU; formerly known as Fern-Hochschule Bad Honnef) – have increased their student numbers enormously since the pandemic, indicating that remote studying has increased in popularity. The private IU has become the biggest university in Germany by student numbers, with more than 100,000 enrolments (www.iu.de/news/iu-internationale-hochschule-erreicht-neuen-meilenstein-von-100-000-studierenden). In comparison, there were 300 students at IU in 2012 and about 20,000 students in 2018/2019 shortly before the pandemic hit. With 70,000 students, FernUniversität Hagen is the second biggest institution. The biggest universities among those that returned to on-campus teaching after the pandemic are the University of Cologne and the University of Munich LMU München, with 50,000 students each (data from 2022). This documents an evident trend toward a not insignificant number of students preferring remote study (Rath & Maisenhölder, 2021; Reinmann, 2021; Stoppe & Knaus, 2022). This includes a growing number of students with care responsibilities and those who have to work to finance their studies, precluding them from spending a full day at university (Rath & Maisenhölder, 2021). Generally speaking, the growing heterogeneity among students in tertiary education should encourage universities to consider diversification and differentiation strategies in teaching as in other fields. Study programs and the implementation of diversified and flexible learning options are critical to addressing this challenge (Deimann, 2021; Lockee, 2021; Röwert et al., 2017; Schmidberger et al., 2022).

Having summarized the six key findings from the experience reports and empirical studies in a qualitative conceptual meta-study, the following section revives and discusses a twenty-year-old idea before the paper's conclusion identifies desirable outcomes for research and practice.

4 Discussion: From E-Learning to Blended Learning Again (But Properly This Time)

A solution may well be at hand if teachers and institutions seriously address current challenges, such as the increasing heterogeneity of students, while at the same time acknowledging the potential of digital media to improve teaching and learning. As such, it makes good sense to rethink contemporary forms of teaching and learning (Hauck-Thum, 2022; Knaus, 2022; Zhao, 2020). This does not necessarily mean surrendering established concepts, formats, and learning tools, but we do have to identify those concepts and formats that continue to make sense and that can sensibly combine with other concepts and formats to meet the needs of contemporary university lecturers and students. One combination that may be suitable is on-campus with online teaching. A broad range of possibilities is certainly helpful and allows teachers to pick adequate media based on their didactic requirements. Many years of practice have provided us with the experience necessary to choose wisely. One approach that might prove suitable is blended learning (Clark, 2003; Friesen, 2012). While hybrid teaching refers to a course that takes place simultaneously in virtual and physical rooms, blended learning generally refers to employing mixed formats to adequately alternate synchronous and asynchronous elements as well as digital and non-digital learning environments within a course (Friesen, 2012). This didactically sensible combination can, for example, reduce the fundamental weaknesses of self-directed learning.

Originally conceived of around the turn of the millennium, blended learning was an attempt to respond to the deficits of e-learning. Students in early e-learning classes, such as so-called computer-based training (CBT; also, later, web-based training or WBT), often found the lack of personal contact with the teachers and their fellow students frustrating. Many participants in CBT programs simply received a computer disk or a USB stick with texts, animations, or videos. They were then required to find their own way through the material and were able to check their learning progress by answering single-choice or multiple-choice questions. Larger groups in in-company training were often trained using CBT or WBT software, which reduced the costs associated with staff training and travel. The companies simply had to pay for the learning material, the media, and their distribution. Thus, early on, e-learning concepts were driven less by theoretical or didactic concepts of learning and more by economic considerations (Heller, 2010). The results were often fairly mediocre learning experiences, and the willingness of employees to participate in these classes was often limited, as were the results of their learning. Many felt that there was a lack of feedback and insufficient opportunity to ask questions. The lack of personal contact with teachers and other members of the learning group decreased motivation levels (Knaus, 2016), a particularly problematic outcome given that autonomous self-learning frequently requires a high degree of intrinsic motivation (Reich, 2008).

We can observe an interesting parallel between these experiences and the learning formats offered during the pandemic-related emergency online semesters. During the pandemic, many university lecturers simply put their manuscripts or scanned handbooks on learning platforms without giving students the opportunity to ask questions and discuss the texts with others. This often diminished the motivation of many students, despite most students being intrinsically motivated to pursue their studies (Arndt et al., 2020; Klug & Seethaler, 2021; Schmidtberger et al., 2021). However, the initial motivation to take up a certain study program or a certain course can prove difficult to sustain over time, even in ordinary circumstances. My brief overview of the early days of e-learning demonstrates that we are currently re-experiencing similar challenges with many asynchronous formats of online teaching. Universities that want to take the experiences of teaching during the pandemic as a basis for advancing teaching didactically are well advised to learn from these early experiences with e-learning. Concepts such as blended learning can help to soften the demotivating effect that often accompanies autonomous learning (Knaus, 2016). Some evidence suggests that support for learning in general can come from a combination of autonomous and heteronomous elements in learning, asynchronous work at home and synchronous study with the group, and more receptive and more productive phases of learning (Knaus, 2016; Knaus, 2022). In fact, this applies to every format of teaching and learning, including in-person formats. Adding online teaching and learning elements certainly broadens the possibilities for adequately visualizing content, allows students to flexibly adapt their learning according to their personal schedule and individual learning process, creating new spaces for in-person and virtual encounters as well as for communication, interaction, and collaboration (Knaus, 2022; Lockee, 2021).

Michael Kerres has been one voice calling into question the conceptual emphasis on terms such as e-learning or blended learning in light of current ideas about learning and teaching. He believes that these terms tend to present teaching and learning with digital media as an alternative to "normal learning" (Kerres, 2016, p. 4), and so often tend to disregard it as a less valuable alternative. However, this disqualification of so-called digital learning no longer corresponds to many individuals' experiences of a reality that has become increasingly influenced by mediatization and digitalization and where true communication and interaction have been increasingly reliant on digital technology. This finding also applies to online teaching and digital learning, which are often regarded as abnormal forms of learning despite having become part of a new normality, particularly following the pandemic. Online teaching and learning with digital media, in general, can no longer be understood as optional additions to regular teaching and learning, and they must take their rightful place in universities' range of mainstream didactic approaches.

5   Conclusion

If someone had asked me three years ago where I would place German universities on a scale of development in terms of digital teaching, I would have answered "in the Stone Age." Now, just a few years later, it has become clear how creative we are or can be. Luckily, and due to the pandemic, it is no longer only a small group of media educators with a passion for university didactics who are thinking about media and online-supported teaching. Numerous colleagues with various specializations and perspectives, teaching requirements, and points of view have also started to reflect on the same issues (Knaus, Merz, & Junge, 2022; Knaus, Junge, & Merz, 2022). The involuntary large-scale experiment brought about by COVID-19 has expanded the think-tank concerning good teaching and online teaching, in particular. Although many teachers gained experience with media- and online-based teaching in a pandemic-related emergency situation and initially also under significant time pressures, they took their first and (often) most difficult step towards online teaching: simply trying it out (Deimann, 2021; Knaus, 2022; Wohlfart et al., 2021).

The discussions about pandemic-related university teaching have revitalized the debate about the quality and conditions of good teaching (Dittler & Kreidl, 2021; Knaus, 2022; Reinmann, 2021). Now, beyond the pandemic-related emergency measures and in view of new concepts and possibilities, it is important to think about what good teaching can mean today (Hauck-Thum, 2021; Knaus, Merz, & Junge, 2022; Knaus, 2022; Lockee, 2021; Zhao, 2020). From a media didactics perspective, it certainly includes using media in an adequate way and reflecting on the possibilities and limits of digital media for good teaching, with the aim of continued development in this field (Knaus, 2022; Mayrberger, 2021; Reinmann, 2021; Zhao, 2020). As such, the new experiences with media and digital formats that teachers have gained over the past couple of years helpfully serve to broaden their didactic options for the future.

COVID-19 and pandemic-related restrictions challenged some socially ingrained views and attitudes. In terms of university teaching, the pandemic and the resulting online semesters prompted us to reflect on the quality of teaching today. This is encouraging because, historically, scholars have primarily focused on research, with the quality of teaching often playing a subordinate role, even in new appointments at universities. Many lecturers have, until now, taken it for granted that on-campus teaching is inherently good. Performance was often measured based on time invested – that is, the input – particularly because output in the educational context is good to know but notoriously difficult to measure (Kirkpatrick & Kirkpatrick, 2006). This concluding outlook aims to demonstrate that, especially in educational contexts, creative experimentation, thoughtful design, and critical reflections are essential for overcoming new challenges. Creative ideas and reflection on personal experiences are highly valuable in this regard, producing demand not only for

hypothesis-driven research but also more qualitative, design-oriented, and participatory action research (Moser, 2018; Tulodziecki, 2018), especially in media didactics and higher education didactics (Kerres, 2018).

The next challenge is already looming. After COVID-19 prompted scholars worldwide to devote greater thought to university teaching, current innovations in (generative) artificial intelligence will now force us to rethink traditional examination formats (Knaus et AI, 2023). Since the free release of OpenAI's ChatGPT in November 2022, the limitations of traditional methods of assessment have become increasingly apparent. Time will tell what interesting opportunities lie in wait within the impending organizational changes. Indeed, examination formats such as written exams have perhaps long been a makeshift solution which has been long overdue for reconsideration. In facing this new challenge in higher education, qualitative, design-oriented, and participatory research – and its critical reflection – are particularly desirable.

Ultimately, we flattened the (COVID-19) curve, but have clearly stepped up our learning curve with regard to media-based teaching. The experience reports and empirical studies referenced in this text from a qualitative-reconstructive meta-perspective clearly show that this challenging time was also an instructive time for all of us. Learning, depending on how we choose to define it, is neither very difficult nor complicated. After all, human beings do it every day. However, we should not underestimate and undervalue the readiness of lecturers to re-learn their customary approaches to teaching and to revise the teaching practices that some of them had been practicing for years. Learning means approaching the unknown without prejudice, even if it means us having to leave our comfort zone.

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Acknowledgements