The current state and impact of Covid-19 on digital higher education in Germany

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Abstract

This case study looks at the effects of the Covid-19 pandemic on teaching and learning at universities in Germany. It examines the question of whether the current practice of Emergency Remote Teaching in the online term 2020 will lead to an acceleration of the digitalization of teaching and learning, and on what we can build upon in this development. In the light of the state of digital higher education in Germany and international experience in the field of distance education, as well as organizational support structures, the results of a longitudinal study on the media use behavior of students will be presented. While the acceptance of e-learning tools was slightly declining before the Covid-19 outbreak, it is to be assumed that the demand for digital offers will rather increase. Despite some reluctant reactions, it can be assumed that the current situation will have a positive effect on digital innovations in university teaching in Germany due to the pressure of the crisis, the great commitment of many teachers, and raised expectations.

Keywords

Corona pandemic, Covid-19, digitalization, distance education, media use, teaching and learning

“The bottom line is we’re getting the full blast for the missed digitization of education.”

(quote from a student, April 21, 2020)

1 | INTRODUCTION

The International Association of Universities in Paris has just published a report on the impact of Covid-19 on the research, teaching and management of universities worldwide (Marinoni, van’t Land, & Jensen, 2020). Universities in 111 countries were surveyed in March and April. At the peak of the lockdown in Europe, 85% of European universities indicated that distance learning would replace the study programs, 12% were preparing solutions, while 3% of universities were planning to cancel classes altogether.

The present article will take a look at the situation in higher education in Germany. The above quote is from a chat with a student about her first experiences with emergency remote teaching (Hodges, Moore, Lockee, Trust, & Bond, 2020). Suddenly and completely unexpectedly, online learning and teaching has now entered the mainstream of higher education. In the Corona crisis, teaching is being transferred from the status quo - forced into the digital world - without being well prepared for it, as Michael Kerres (2020) puts it in a nutshell in an essay about Germany: “No managerial strategies, no teacher training, no debates on technological design or politics, no arguments about the pros and cons - we just do it” (p. 1).

It is surprising when, for example, at a medium-sized university with 15,000 students, the video conferencing system goes down, when only the staff works in their home office during the “emergency operation” in the Spring break. The universities have then made
enormous efforts in a very short time to make an online summer term 2020 possible within weeks. Investments were made in a technically stable infrastructure. Many lecturers have put a lot of effort and commitment into setting up online modules, recording interactive videos, developing learning materials and tests, creating learning paths, moderating forums and holding consultation hours via video conferencing. Suddenly the Learning Management System is no longer used only for course management or as a place to provide readings and presentations, but really as a teaching and learning environment. However, there are also examples of courses in which the 90-min lecture including its 70 slides is transmitted 1:1 by video or in which teachers meet their students in a synchronized setting in a video conference room at regular class hours.

There is no doubt that the current situation triggers a great deal of pressure in the direction of digital teaching and also leads to a steep learning curve for many faculty members, which pushes forward competence development processes. Massive investments are being made in the technical infrastructure, teachers are acquiring media technology knowledge and taking advantage of the services provided by educational consultants and instructional designers. Examinations and tests are carried out with the help of computers (e-assessment) and some university presidents and vice-presidents probably have become painfully aware of the value of their Center for Teaching and Learning.

What will remain of it after the pandemic is completely unclear. It is likely that many teachers will return to their usual classroom teaching as quickly as possible, although they may wish to continue to use the materials and resources they have created and develop them further in order to make their teaching more flexible and interactive. In a survey on the digital summer term 2020 at the University of Oldenburg in Germany, 74% (n = 296) of the lecturers stated that their workload was significantly higher or higher compared to previous semesters. 19% (n = 63) would like to see fully online teaching for the 2020/21 winter semester, 42% (n = 138) would prefer partly online and classroom teaching, and 39% (n = 131) would like to see classroom teaching as far as possible. The survey was carried out by the Department of Academic Affairs (internal evaluation) from July 06 to 26, 2020. From 1.700 faculty members and lecturers who had been contacted, 509 questionnaires were submitted (response rate 29.9%).

Further information is available at: https://uol.de/interne-evaluation/befragungen-zum-digitalen-sommersemester-2020 (accessed on November 15, 2020).

This paper reports on current developments in Summer 2020 towards the digitization of higher education in Germany that are accelerated by the Covid-19 pandemic. The case study is based on empirical data describing the pre-pandemic situation and a documentary analysis of reports and policy papers in the context of the German higher education institutions.

If we assume that the current situation can be an opportunity for the digitalization of teaching and learning in higher education, then the question arises on what we can build upon. In distance education, learning and teaching has always been facilitated by media and educational technology, since learning here is only made possible at all by media (cf. Peters, 1997). Against this background, the aim of this paper is to shed light on current developments from this perspective and also in an international context in order to benefit from the experience and knowledge gained from the practice and research of distance education.

Furthermore, the question arises how students deal with the sudden digitization and how they can be reached with the digital modes of delivery. Which digital devices, media and tools do they have access to? How are these used for learning during their studies and how do students assess the usefulness for this purpose? There is no current data available on this, but the results of a longitudinal study on the media usage behavior of students, which was carried out in 2012, 2015, and 2018 (N = 5,572), will be summarized here in order to provide initial insights.

2 | THE STATE OF DIGITAL EDUCATION AS REFLECTED IN INTERNATIONAL DEVELOPMENTS

2.1 | Digital higher education in Germany

The use of digital media for learning and teaching has been promoted in Germany for quite some time. In 2000, for example, funds from the auctioning of UMTS licenses were used to finance the major funding program “New Media in Education” of the Federal Ministry of Education and Research (BMBF) with a total volume of EUR 185 million. The aim of the funding line was a permanent and broad integration of the “new” media as teaching, learning and communication tools in education.

Despite all the discussions, numerous other project funding (for an overview of e-learning funding in Germany, see e-teaching.org, 2019) and also some innovative developments, for example in the context of part-time courses of study and university continuing education (see Arnold, Zawacki-Richter, Haubenreich, Röbken, & Götter, 2017; Hanft & Brinkmann, 2013; Hanft, Zawacki-Richter, & Gierke, 2015) as well as in the area of distance teaching institutions (Bernath & Stötter, 2018), it can be stated that a sustainable integration of digital media has not taken place across the entire range of higher education. In a study on the state of digitalization of universities in Germany, for example, just 1.7% of the universities surveyed (n = 116) rated the state of digitalization of teaching and learning as well advanced. There is a large discrepancy between the importance of digitalization as perceived by university management and the current implementation (Gilch et al., 2019, p. 29 f.).

However, it is noticeable that the pressure to innovate and change on brick and mortar universities has increased as a result of the general digital transformation that affects all areas of society (cf. Stalder, 2016). Digitalization is seen as the key to innovation in the European Higher Education Area (Rampelt, Orr, & Knoth, 2019). This development was taken up by the Federal Government in the Digital Agenda 2014–2017, which also launched the “Education Offensive for the Digital Knowledge Society” to better prepare people for the demands of the digital professional world and to
strengthen their media literacies (Federal Government, 2014). In response, the BMBF presented a digitization strategy in October 2016 which describes five fields of action. These include the provision of digital education and media skills (1), the expansion of digital infrastructures (2), the creation of a modern legal framework (3), support for strategic organizational development (4) and the use of the potential for internationalization (BMBF, 2016). At the same time, the BMBF established the Higher Education Forum on Digitalization (Hochschulforum Digitalisierung—HFD) to develop concepts and studies on digitalization at universities in expert groups and to offer advice and counselling. In its final report, the HFD emphasizes that processes of change must be initiated at the strategic level of higher education in order to use the potential of digital education. Strategic goals and an organizational framework that includes all decision-making levels and relevant stakeholders are needed to shape the change process (HFD, 2016).

The general trend towards digitalization is leading to a focus on innovation or “modernization” (Getto & Kerres, 2017) of teaching and learning in the mainstream of higher education. Since 2017, experts from the HFD have advised numerous universities on the development of digitalization strategies for teaching and learning. One might therefore think that there is a certain spirit of optimism which is now being triggered by the abrupt switch to online teaching by Covid-19. However, Schünemann and Budde (2018), in a report of the HFD, sum up the strategy consultations as follows: “German universities are using digitalization primarily to modernize their teaching methods and curricula. Traditional paradigms of teaching, examination and certification are rarely questioned…[T]his means that incremental innovations can be observed across the whole range of German universities [...]” (p. 12).

In general, there is widespread skepticism about digitalization in Germany, which is associated with an investment backlog in the area of digital infrastructure. In the “Index of Readiness for Digital Lifelong Learning” of the Centre for European Policies Studies (CEPS), Germany ranks last in a European comparison: “Germany’s last-place finish is remarkable, but perhaps less so for those closely paying attention to digital trends. Germany has come under scrutiny for under-investment in digital infrastructure. Attitudes are also important, and Germans tend to be skeptical towards digital technologies” (CEPS, 2019, p. iv).

2.2 International experience: Online Distance Education

Against the background of the current discussion on the implementation of digital learning and teaching, a déjà-vu effect can arise if one thinks of the origins of distance learning and computer-based learning. In the corresponding research and practice communities, discussions about electronic or digital forms of learning have been going on since at least the mid-1990s. The focus is basically on the organizational prerequisites for sustainable implementation, even if the terms used in the debates have changed over the years: computer-based learning, distance education, online learning, e-learning, blended learning, technology-enhanced learning, and now remote learning. For example, the book “Delivering Digitally—Managing the Transition to the Knowledge Media” (Inglis, Ling & Joosten, 2000) is more than 20 years old, but the topics are still spot on: teaching in electronic learning environments, technological infrastructures, organizational and human resources development, student support systems and aspects of quality assurance.

Institutions of distance education have always been spearheading in the adaptation of new media, since teaching and learning in distance learning is only made possible by media. Two-way media are a constitutive element of distance learning, as they support direct, synchronous and asynchronous exchange between teachers and learners (Keegan, 1980). Distance education can look back on a long history (see Delling, 1992; Dieckmann & Zinn, 2017). The first university to offer distance learning was the University of London in 1858, and the first dedicated distance teaching university was the University of South Africa, founded in Pretoria in 1875. Since about the middle of the 20th century, distance education research has established itself with its own journals and professional societies (see Delling, 1971; Zawacki-Richter & Naidu, 2016). Therefore, we can benefit from the theory, research and practice in online teaching and student support in distance education for the development of digital education at on-campus universities.

Qayyum and Zawacki-Richter (2018) and Zawacki-Richter and Qayyum (2019) have published two volumes on the worldwide development of open and distance education systems in the context of digitalization. It can be seen here that countries with a long tradition of distance education, such as Australia, Canada and also South Africa, have made much more progress in digital higher education than Germany. Australia’s outstanding role in the international education market should also be emphasized. International (online) degree programs are Australia’s most important export good in the service sector (Latchem, 2018). In emerging countries such as Brazil, there is a huge demand for higher education that traditional universities cannot meet at all. Millions of students here are enrolled in mostly private distance teaching institutions. The largest private distance education company in the world (Kroton) is based in Brazil (Litto, 2018). In South Korea the Korea National Open University (KNOU) was founded in 1972. It is noteworthy that a national digitalization strategy was adopted in South Korea already in 2000. And as early as in 1998 a network of so-called “Cyber Universities” were established (Lim, Lee, & Choi, 2019).

I actually do not intend to give wise advice on emergency remote teaching from the world of distance education, but would rather refer to the relevant handbooks (Evans, Haughey, & Murphy, 2008; Khan & Ally, 2015; Moore & Diehl, 2019; Zawacki-Richter & Anderson, 2014). The Commonwealth of Learning in Vancouver has published some guidelines with the participation of world-leading experts in distance learning (COL, 2020), and in German there is helpful information on the e-teaching.org website of the Leibnitz Institute for Knowledge Media in Tübingen.

However, I would like to emphasize two issues here which, according to empirical findings of distance learning research and all practical experience, are critical for success:

1. the existence of a coherent support system for students along the student lifecycle and
2. the existence of a systematic and professional instructional design process with an appropriate technical infrastructure and a faculty support system.

Students in online and distance learning courses have a greater need for guidance and counselling services: “The lesson from open universities in particular is the importance of planning and integrating support services from the outset into the overall design of the institution” (Brindley & Paul, 1996, p. 49). Here we can distinguish between administrative-institutional services of the support system in the broad sense (e.g., student counselling, library services) and the support of the learning process in the narrow sense (e.g., in online tutorials). Personal contact between teachers and students or among students is also of critical importance for the success of online learning. Digital media offer a wide range of possibilities for synchronous and asynchronous communication (cf. Zawacki-Richter, 2004). Hence, it is important to build a framework of diverse support services around the students without spoon-feeding them in order to develop independent and autonomous learners. In the English literature there is a beautiful term to describe this: scaffolding (McLoughlin, 2002).

A prerequisite for the development of digital higher education is a corresponding organizational and professional development, which requires a clear commitment on the part of the university management and must be supported by all the players on the basis of a university-wide strategy: “[...] unless a college or university is prepared to make a serious long-term, institution-wide commitment to the goal, it is extremely difficult to go virtual in a big way” (Allen, 2001, p. 72). There is a need for central service units such as the Centers for Teaching and Learning in the Anglo-American world (cf. Truong, Juillerat, & Gin, 2016), which advise and qualify teachers to develop, implement and facilitate online or blended courses. Especially now, it is taking its toll that such centers or e-learning units for teaching and learning in higher education are often very thinly staffed in Germany with limited resources and often only temporary project personnel financed by third-party funds.

Instructional design is a systematic process for the professional planning, design and evaluation of educational interventions which is based on a team approach and division of labor (Morrison, Ross & Kemp, 2011). The Open Universities have course development teams in which instructional designers work together with content experts, graphic designers, video technicians, web developers, etc. to develop high-quality and professionally designed study materials. Such learning materials in various media formats are an essential quality feature of online or blended learning courses (see Röbken & Broens, 2017).

The starting point of the instructional design process is always a context analysis, which also considers the characteristics and needs of the respective target group. Especially in the first term of remote learning, this includes the question of the students’ media technology equipment and their media usage behavior for learning in the classroom in order to support the students in the best possible way. Therefore, the following section will report on this on the basis of empirical data from Germany.

3 | MEDIA USAGE FOR LEARNING AT UNIVERSITY

In a longitudinal study using a repeated cross-sectional design, students were surveyed at three-year intervals from 2012 to 2018 on their technical equipment and the use of media, tools, and services for learning during their studies. A total of 5,572 students from 42 different universities in Germany took part in the survey: 2012 (N = 2,317), 2015 (N = 1,327), and 2018 (N = 1,918). In all three years, approximately 60% of the participants were female and 40% male. The average age varied between 25 and 27 years with a range of 17–75 years. On average, the students were in their fifth term.

The design of the study, the development of the questionnaire and the selection of the sample are described in detail in Zawacki-Richter, Hohlfeld, and Müskens (2014), Zawacki-Richter, Müskens, Krause, Alturki, and Aldraiveesh (2015), and Zawacki-Richter et al. (2015). Selected results will be presented here.

3.1 | Access to digital devices and Internet use

In all three years of the survey, more than 99% of students stated that they had Internet access at home. While in 2012 only just over half had a smartphone with mobile Internet access, this figure was 98% in 2018. Students estimate that they use the Internet for an average of four hours a day.

Overall, students are very well equipped with digital devices. On average, they have five different end devices. While stationary devices (desktop PCs, printers, scanners) have become less and less important over the years, mobile devices are becoming increasingly popular (e.g., smartphones +42% or tablets +34%, see Table 1).

This development leads to the assumption that technology-enhanced learning is predominantly carried out via mobile devices, which is also confirmed by Lee, Leow, and Kong (2019) from the Asian region and in the ECAR 2019 Report (Gierdowski, 2019) for United States. The presentation of content and communication with students should therefore be optimized for mobile devices.

### Table 1 Ownership of digital devices in 2012, 2015, and 2018

| Device            | 2012 | 2015 | 2018 | Δ (2018–2012) |
|-------------------|------|------|------|--------------|
| Smartphone        | 56%  | 91%  | 98%  | 42%          |
| Tablet            | 9%   | 39%  | 45%  | 34%          |
| E-Book Reader     | 7%   | 19%  | 21%  | 14%          |
| Laptop            | 86%  | 92%  | 95%  | 9%           |
| Scanner           | 64%  | 65%  | 58%  | –6%          |
| Desktop PC        | 51%  | 42%  | 39%  | –12%         |
| Printer           | 79%  | 76%  | 65%  | –14%         |
3.2 Digital media, tools, and services for learning in higher education

Against the background of the trend towards mobile devices, it is interesting to examine how and for what purposes students use these devices. Table 2 shows the different learning activities with mobile devices during studies.

It becomes clear that with the further proliferation of mobile devices, the intensity of use for almost all activities has also increased from 2012 to 2018. Only the sending of (paid) text messages has declined sharply. These have been replaced by instant messaging services (e.g., Signal, Threema, WhatsApp, etc.), reaching the highest level of all applications at 88% in 2018. Mobile devices are widely used to search for and retrieve information and content (e.g., for library services, Internet search, retrieval of grades). This also includes access to the learning platform, which, however, is less used for communication via mobile devices. External channels such as WhatsApp or e-mail are more likely to be used for this purpose.

According to the media typology of Grosch and Gidion (2011) and Grosch (2014), we can distinguish the different media, tools and services according to text media (printed and digital), general web tools and services (e.g., a search engine) and e-learning-specific tools and services (e.g., the learning platform or video lectures).

The students were asked how often they use the different media, tools and services for learning during their studies and how useful they find them for learning (on a 5-point Likert scale). From this, acceptance values and ranks were calculated for 60 media, tools and services over the years 2012, 2015, and 2018.

Search engines ranked first in all three years. They are used most frequently and are also considered very useful for study purposes. The rise of instant messaging services is also reflected in the acceptance values. While in 2012 and 2015 they were still in 20th and 13th place, respectively, they now rank on the second place.

In 2018, instant messaging services are be followed by word processing software (third place), e-mail accounts (fourth place), computer workstations outside the university (fifth place) and PDF readers (sixth place). Only in seventh place is the learning platform or the Learning Management System (LMS), which was still in fourth place in 2012 and 2015. The acceptance of printed texts also falls from fifth to 10th place in 2018, while electronic texts (e-books, PDFs) are constantly in seventh (2012) and eighth place (2015 and 2018). Online library services drop from 11th (2012 and 2015) to 15th place in 2018.

Overall, a declining acceptance of e-learning tools was observed in the pre-corona period (see also Zawacki-Richter, Kramer, & Müskens, 2017). This observation also coincides with the digitalization index (Initiative D21, 2019), which includes access (green), usage behavior (purple), digital competence (thin red) and the openness (grey) of the population to digitalization. Only access, that is, Internet use and equipment, has increased significantly in recent years, while usage behavior, openness and competence in handling digital media have stagnated (see Figure 1).

Especially people with higher education—among whom we may count students and university teachers here—are obviously more critical in dealing with new developments in digitalization and “no longer want to be at the forefront of all technology trends” (Initiative D21, 2016, p. 27). One explanation for this is speculation that “people who are more proficient with certain applications or programs are more likely to have an overview of what would still be possible and what they cannot do, and thus to assess their skills more self-critically. In any case, the more self-critical assessment of competence clearly reflects that the complexity of digitalization has arrived in society” (ibid.).

| Mode of use                                      | 2012 | 2015 | 2018 | Δ (2018–2012) |
|-------------------------------------------------|------|------|------|--------------|
| Library services                                 | 28%  | 45%  | 53%  | 25%          |
| Collect data for examination papers             | 24%  | 35%  | 48%  | 24%          |
| Research for examination papers and presentations| 45%  | 55%  | 69%  | 23%          |
| Sending emails to teachers                      | 51%  | 65%  | 74%  | 23%          |
| Book courses                                    | 39%  | 46%  | 57%  | 18%          |
| Review grades                                   | 55%  | 66%  | 69%  | 14%          |
| Take photos                                     | 66%  | 70%  | 78%  | 12%          |
| Writing texts for examination papers            | 6%   | 11%  | 18%  | 12%          |
| Buy books                                       | 24%  | 30%  | 35%  | 11%          |
| Access to learning management systems           | 68%  | 75%  | 78%  | 10%          |
| Internet research during the lesson             | 71%  | 71%  | 74%  | 3%           |
| Posting texts or photos                         | 41%  | 41%  | 45%  | 4%           |
| Sending mails to fellow students                | 70%  | 72%  | 73%  | 3%           |
| Communication via LMSs                          | 36%  | 41%  | 38%  | 3%           |
| Sending SMS to fellow students                  | 84%  | 61%  | 36%  | –48%         |
| Instant messaging (e.g., WhatsApp)              | k.A. | k.A. | 88%  |              |

TABLE 2 Use of mobile devices during studies (multiple answers possible)
In the current practice of Emergency Remote Teaching it can be observed that very often synchronous video conferences (e.g., with BigBlueButton or Zoom) are carried out and lectures or presentations are recorded as videos and made available on the learning platform. Previously, the acceptance of these formats in particular was very low. Synchronous webinars with video conferencing systems ranked 31st, 29th, and 30th in 2018. Especially the tendency in the acceptance of lecture recordings was negative: they fell from rank 12 in 2012 to rank 34 in 2015 to rank 43 in 2018. However, international studies have shown that students do appreciate lecture recordings (Henderson, Selwyn, & Aston, 2017), especially their flexibility in terms of time (Langer-Crame, Newman, Beetham, Killen, & Knight, 2019). If video-based teaching is offered only infrequently to university teachers due to a lack of infrastructure and further training, students cannot use it and perceive it as helpful. In further research it will therefore be very interesting to investigate whether and how these values have changed after the experiences of the summer term 2020.

### 3.3 Supply and demand: desire for digital teaching/learning formats

The study by Wilkesmann, Virgillito, Bröcker, and Knopp (2012) with Germany students has already shown that experience with e-learning also significantly increases the demand and desire for e-learning. In addition to the frequency of use and the perceived benefit of media, tools and services for learning in higher education, the students were also asked, following Kerres, Hanft, Wilkesmann, and Wolff-Bendiik (2012), how important the use of digital teaching and learning formats is for them in the courses relevant to them (demand) and how often these teaching and learning formats are actually used in studies (supply).

Z-standardized values were used for the direct comparison of the offered formats (Table 3). The difference (Δ) between the demand for and the available supply of digital teaching and learning formats illustrates that in 2018 there is a gap between supply and demand for web-based training, online tests and exercises and for lectures as podcasts or vodcasts (positive z scores). The greatest demand is for the provision of course-accompanying materials (e.g., PowerPoint slides for lectures) on the university’s learning platform. This demand was well met in all three years of the survey (negative z-values).

It should be emphasized that the demand for lectures as podcasts or vodcasts was largely met in 2012 and 2015, but increased significantly in 2018. Together with the finding that the acceptance of lecture recordings dropped from rank 12 in 2012 to rank 34 in 2015 to rank 43 in 2018, a deficit in the provision of lectures as podcasts or vodcasts at German universities can be deduced. This is likely to have changed in the current term.

| Table 3 | Desire for digital forms of teaching and learning (z-standardized values) |
|---|---|---|---|
| | 2012 | 2015 | 2018 |
| | n | Δ | n | Δ | n | Δ |
| Course-related learning materials | 2.157 | −0.49 | 1.244 | −0.52 | 1.675 | −0.51 |
| Interactive multimedia learning materials | 1.884 | −0.003 | 1.123 | −0.02 | 1.512 | −0.05 |
| Online courses and tutorials | 1.714 | −0.01 | 1.026 | −0.04 | 1.432 | −0.01 |
| Lectures in pod-/vodcast format | 1.823 | 0.05 | 1.037 | 0.01 | 1.396 | 0.11 |
| Virtual internships and laboratories | 1.441 | −0.15 | 817 | −0.17 | 1.182 | −0.11 |
| Online tests and exercise (E-assessment) | 1.845 | 0.13 | 1.087 | 0.03 | 1.499 | 0.13 |
| Web-based trainings | 1.577 | 0.20 | 917 | 0.15 | 1.302 | 0.19 |
| E-portfolios/learning diary | 1.390 | −0.06 | 833 | −0.11 | 1.159 | −0.04 |

[FIGURE 1 Development of the Digital Index and its components (Initiative D21, 2019, CC-BY)]

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The proportion of students who participated in a fully online module or a course in blended learning format with alternating online and face-to-face phases was stagnant at a low level or even slightly declining from 2015 to 2018: 11.1% of students had participated in a fully online course in 2012, 17.8% in 2015 and then only 15.4% in 2018. 13.8% had already experienced blended learning in 2012, this figure rose to 22.7% in 2015 and then fell again to 20.9%.

For comparison: In the USA, online and distance learning courses already accounted for 31.6% of course enrolments in 2016 (Seaman, Allen & Seaman, 2018). According to a report by the National Center for Education Statistics (Ginder, Kelly-Reid, & Mann, 2018) on the 2016/2017 academic year, the number of students in fully online courses rose by more than 4% and the number of those who completed at least one online course by more than 6%, even though the number of students overall declined in the same year.

According to the ECAR Study of Undergraduate Students and Information Technology in the United States (Galanek, Gierdowski, & Brooks, 2018), the majority of students (55%) prefer courses with an online component (blended learning). The ECAR study also confirms the observation of Wilkesmann et al. (2012). Experience with e-learning increases the demand for e-learning:

Those who have never taken a completely online class are significantly more likely to prefer face-to-face-only courses, and vice versa. However, students who have taken at least some of their courses online are significantly more likely to prefer blended environments and less likely to prefer purely face-to-face courses. (p. 19).

4 | CONCLUSIONS AND FURTHER PERSPECTIVES

Whether there will be a fundamental innovation or change of university teaching triggered by the Covid-19 outbreak, seems questionable. Representative studies on the practice of Emergency Remote Teaching are not available for Germany: “It seems that we probably will not have this data in the near future, because planned or approved projects on the topic do not seem to be in sight” (Kerres, 2020, p. 3f.).

Even the term emergency remote teaching, which has found rapid proliferation in contrast to online, blended or distance learning, indicates that this is something that one would like to leave behind as quickly as possible. In an open letter “In Defence of Presence Teaching”, more than 6,000 university teachers “point out the danger that the current situation could cause the traditional presence formats to lose the appreciation and support of university management, education ministries and politics, a support that they will urgently need in the post-Corona period” (https://www.praesenzlehre.com, sixth paragraph). The authors speak of a threat to face-to-face teaching and present digital teaching as a danger.

One can argue a great deal about whether academic discourse is also possible in digital learning spaces (see the wonderful essay “Text that talk back” by Thomas Hülsmann, 2003). This is certainly also related to the respective subject culture. Conspicuously, many of the signatories of the open letter come from the humanities, cultural studies and linguistics, and also from the natural sciences. Particularly in subjects with a high proportion of laboratory work and internships, a rapid switch to digital is hardly feasible. Such developments are complex, time-consuming and costly, but nevertheless possible, as is shown, for example, by the work of Dietmar Kennepohl (Kennepohl, 2016; Kenneahl & Shaw, 2010) at the Faculty of Natural Sciences at Athabasca University (Canada’s Open University).

A discussion about saving face-to-face teaching is certainly a phantom debate, because there is basically no sign that face-to-face teaching is being questioned or that all universities are suddenly turning into distance learning universities.

However, it should not be argued here that “e-learning” is better than face-to-face learning. Rather, it should be emphasized that there are always advantages and disadvantages, pros and cons of using digital media in teaching and learning. For some target groups, access to higher education is only made possible by digital formats independent of time and space. Digital media and tools may afford “a different kind of learning” (Kerres, 2018, p. 6) with a variety of materials that can be self-directed, cooperative, interactive, problem-oriented, and flexible in order to prepare students for a digital world. However, it is always necessary to decide on a case-by-case basis what kind of pedagogical added value digital media offer, depending on the needs of the target group and the content to be taught.

In the current situation, many have put a lot of effort into converting their lectures and seminars into a digital format and have shown great flexibility in order to make it possible for most students to study. This effort should not be in vain. Many lecturers would like to continue to use the developed materials when we are hopefully back to normal in the near future. In a very short time, a lot has been invested in the technical infrastructure, and many university administrators have realized that centers of excellence for digital teaching can be relevant to the system and need to be better equipped.

On the part of students, too, the experience with remote learning could lead, as empirical research has shown, to a greater desire for digital teaching and also raise a certain level of expectation. A further survey of student media usage is planned for 2021. It will be very interesting to see if and how students’ media usage patterns have changed.

Based on the mixed situation described here, I would be tempted to predict that the current situation will provide a certain boost to the development of digital higher education in Germany: “Halb zog sie ihn, halb sank er hin...” (Quote from the ballad “Der Fischer” by Johann Wolfgang von Goethe, 1779).

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CONFLICT OF INTEREST

The author declares that he has no competing interests.
DATA AVAILABILITY STATEMENT
Author elects to not share data.

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