Exploring Study Futures: The Future of Higher Education from a Student Perspective

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Abstract. While the almost complete conversion of university teaching to digital formats in March 2020 initially had a disruptive effect, in the meantime almost all university teachers and learners can look back on numerous experiences with different forms of university learning and teaching. These experiences can contribute to the design of higher education teaching and learning of the future. The article describes an explorative analysis that asks from the students' point of view which studies from Germany can be identified that give hints and statements about the future of studying from the students' point of view and what wishes, requirements, preferences are articulated for future higher education teaching. For this purpose, this article collects evidence from studies on higher education teaching and learning of the future and presents the inductively formed category system as the first result of a structuring content analysis, which gives first indications of significant topics, statements and preferences.

Keywords: Future of higher education · Digitization · Covid-19 · Qualitative content analysis

1 Introduction

"Universities have now shown that they can make rapid changes. And when the university leaders (…) tell me next time that sustainable development and interdisciplinarity don't work because the university is a slow, big tanker, then I will reply that it does work and that they just don't want it to. Then they have to explain to me why they don't want it – and I look forward to that discourse." (Jorin Meyer, Studium in Shutdown, Episode 5).[1]

In the third year since the beginning of the pandemic, it has become clear that, starting from the "new normal" of university teaching, a state of constant adaptation has developed between pandemic events, classroom teaching and digital teaching – and numerous hybrid forms. While the almost complete conversion of university teaching to digital formats in March 2020 initially had a disruptive effect and was seen as a field attempt to rethink university teaching (Dittler and Kreidl 2021), in the meantime

[1] https://anchor.fm/studium-im-shutdown/episodes/Folge-5---Jorin-ed458d/a-a20h0pr.

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almost all university teachers and learners can look back on numerous experiences or even routines with different forms of university learning and teaching. In a qualitative evaluation of interviews with students during the pandemic, Ehlers and Eigbrecht (2021) stated that students have become more aware of different forms of teaching and learning and corresponding quality and learning preferences, and that it is important to include these experiences, ideas and wishes in the design of future higher education teaching and learning.

2 State of Research and Research Question

Numerous studies describe the experiences made with higher education teaching and learning in times of the pandemic from the perspective of various stakeholders such as higher education teachers (e.g. Malewski et al. 2021), higher education leaders (e.g. Bosse et al. 2020) and students (e.g. Preböck and Annen 2021), especially in the first "corona semester," the summer semester of 2020. At that time, these were conducted and evaluated primarily within universities and quantitatively, but also across universities (e.g. Karapanos et al. 2021) and qualitatively (e.g. Gabriel and Pecher 2021). Studies from a student perspective reveal differences and perceptions of how studying works well and less well, and also suggest desires, preferences, and ideas for the future of higher education. While the first semester can still be considered a field trial and in most cases was largely conducted exclusively digitally, the variety of teaching modes in subsequent semesters is great, while at the time of writing the fifth semester since the beginning of the pandemic is imminent. This means that university teaching continues to take place under the sign of the pandemic and hygiene regulations and requirements, but in contrast to the summer semester 2020, it can build on numerous experiences and reflections made – which need to be analyzed and processed. Studying under the sign of a pandemic can now be described as the "new normal".

Thus, university teaching and learning no longer takes place only in a disruptive emergency mode, so that students' statements – according to the underlying assumption of the following analysis – take place in a more reflective way and do not only refer to coping with the current everyday study routine. Thus, based on multiple experiences with different forms of teaching and learning, even students who started their studies during the pandemic can also increasingly formulate preferences and requirements for university teaching in the future and articulate subjective quality preferences (Ehlers 2004). In this approach, students are seen as experts for good university teaching and learning, who shape and reflect on their own learning processes and thus can help shape the future of studying from a subject perspective according to the subject-scientific learning theory (Holzkamp 1993) – and should be included in future higher education design processes.

For this purpose, this paper describes a qualitative explorative analysis of published studies in Germany after the summer semester 2020, which are analyzed for thematic indications of preferences and evaluations of future higher education. Statements about experiences and corresponding wishes and preferences are thus analyzed and used to further develop university teaching and learning in a sustainable way and thus to be able to use the potentials of different forms of teaching and learning. This exploratory

analysis is carried out across all universities and asks: Which studies can be identified that provide information and statements on the future of higher education teaching and learning from the students' point of view? What wishes, requirements, preferences are articulated for future higher education?

3 Research Design

For the planned explorative structuring content analysis, it is first necessary to create a corpus of studies that is as comprehensive as possible, which is to be evaluated. This corpus already represents a relevant research output. It has been decided to only focus on one national educational context, in this case Germany, to allow at least for partial comparability of studies. The reason for this is the variety of national policy reactions to the pandemic situation affecting not only, but also the (higher) education sector.

For this purpose, a keyword-based online research was conducted and supplemented by the analysis of various study overviews on "corona higher education" in order to identify relevant studies. The search terms and the added study overviews are shown below (Table 1):

Table 1. Search terms and resources.

Search terms:
hochschule studie corona 21 + 22
universität studie corona 21 + 22
studieren studie corona 21 + 22
hochschule befragung corona 21 + 22 (6 pages results included because of the amount of results)
universität befragung corona 21 + 22
studieren befragung corona 21 + 22 (7 pages results included because of the amount of results)
hochschule umfrage corona 21 + 22
universität umfrage corona 21 + 22
universität umfrage corona 21 + 22
Google + Google Scholar research, 17 & 18/03/22; inclusion of the first three pages of results, unless otherwise stated
Study collections and overviews:
https://padlet.com/HDS_Zentrum_Leipzig/vnify31nppydz75xPadlet: "Forschung rundum Lehren & Lernen in Zeiten von Corona"
https://airtable.com/shrQFS0CG3jdPf725/tblbgmyj6f8HAiKYo Corona in Education Study Overview
https://www.konsortswd.de/ratswd/themen/corona/studien/ Studien zur Corona-Pandemie
https://www.medienpaed.com/issue/view/91 Medienpädagogik issue 40: CoViD-19 und die digitale Hochschulbildung. Irritationen, Einsichten und Programmatiken

For this purpose, the following criteria were formulated according to the research question, which must be fulfilled in order to include the study in the analysis corpus:

- Studies after the summer semester 2020 or beyond in the case of multiple surveys.
- Studies from the student perspective, qualitatively and/or quantitatively conducted and analysed
- Statements on university teaching of the future: include statements from which conclusions can be drawn beyond the pandemic with regard to study preferences
- Report/article freely accessible online
- Survey already completed and results published
- HEIs in Germany to enable comparability with regard to the educational context

Accordingly, studies were not included in the evaluation for the following reasons:

- Study was in German language, but in a different higher education context (Switzerland, Austria)
- no future-relevant information/statements/items
- ongoing survey; no results published yet
- Student perspective cannot be analysed separately
- Results not publicly available
- Document not available at the time of evaluation

For the evaluation, the content structuring qualitative content analysis according to Kuckartz (2018) is chosen, which allows a flexible approach with different types of data even in the explorative research stage. Since the aim is to identify thematic areas, an inductive approach to the material is chosen. This way, a thematic state of research is to be drawn from the point of view of students' statements on higher education teaching and learning of the future.

Furthermore, own analyses of a qualitative interview study with students, published as podcast series "Studium im Shutdown" and "NextNormal" and already described in various publications (cf. Ehlers and Eigbrecht 2021), are included. It should be mentioned here that these data were not collected exclusively in the German educational context.

Limitations of the described approach are the restriction to two search tools of the provider Google as well as the keyword-based approach, which potentially bears the risk of not identifying all relevant studies. By adding the evaluation of various study reviews, an attempt was made to partially counteract this.

Based on the criteria formulated in advance, the following studies were included in the analysis (Table 2):

Table 2. Overview of included studies.

Name	Institution	Cross-institutional	internal	WS 20/21	SS 21	WS 21/22	quantit.	qualit.	Mixed Meth.
1. Studium und Lehre in Zeiten der Corona-Pandemie – Die Sicht von Studierenden und Lehrenden	CHE	x		x			x		
2. Entwicklungspfade für Hochschule und Lehre nach der Corona-Pandemie	u.a. Institut für Bildungstransfer der Hochschule Biberach	x		x				x	
3. Studieren unter Corona-Bedingungen	Uni Mannheim		x	x			x		
4. Erstsemesterumfrage WiSe 20/21	TU Berlin		x	x			x		
5. Corona-Bilanz. Studieren. Lehren. Prüfen. Verändern. Studie an den bayerischen Hochschulen für angewandte Wissenschaften	Forschungs- und Innovationslabors Digitale Lehre – FIDL	x			x				x
6. Stu.diCo II – Die Corona Pandemie aus der Perspektive von Studierenden	Uni Hildesheim & Uni Münster, bundesweit	x			x		x		
7. Studium als sozialer Raum. Ein Schreibgespräch zwischen Studierenden und Lehrenden	Lohner, Mozer & Schmid-Walz (KIT)		x		x			x	
8. Informatik, Mathematik, Physik – Studienbedingungen an Deutschen Hochschulen im zweiten Jahr der Corona-Pandemie	CHE	x			x		x		
9. Stuvus-Umfrage zur digitalen Lehre im Sommersemester 2021	Uni Stuttgart		x		x		x		
10. Corona Umfrage WiSe 21/22 unter Studierenden vom fzs e.V	fzs e.V	x				x	x		
11. Studierendenbefragung zum Wintersemester 2021/22	Uni Regensburg		x			x	x		

(*continued*)

Table 2. (*continued*)

Name	Institution	Cross-institutional	internal	WS 20/21	SS 21	WS 21/22	quantit.	qualit.	Mixed Meth.
12. Dritte PotsBlitz-Befragung zum Wintersemester 2021/22	Uni Potsdam		x			x	x		
13. Rekonstruktion subjektiver Studienerfahrungen im ‹Shutdown› der Corona-Pandemie (also international context, thus only exemplary evidence)	*Ehlers & Eigbrecht*	*x*		*x*				*x*	
Total	13	7	6	5	5	3	19	3	1

Among the 13 studies included in the analysis, there are similar proportions of internal and cross-institutional studies. Five of these studies were conducted in the winter semester 20/21, five in the summer semester 21 and three in the winter semester 21/22. It can be assumed that several studies are still being evaluated and that the present analysis can only represent an interim status. The majority of the studies were conducted using quantitative methods (online surveys); three studies were qualitative and one study used mixed methods.

4 First Results of the Qualitative Content Analysis

For the content analysis, those passages were identified in the material that make statements about the future of higher education. It can be stated that such passages occupy only little space in the majority of the analyzed documents. Thematic categories were then inductively formed on the basis of the text and a category system was drafted in order to identify topics that concern the university of the future from the students' point of view. From this, the presented category system (Table 3) was created in a multi-step processing of the material, which represents a first result of the content analysis. From the students' point of view, it thematically traces those statements that were made in the included studies on future higher education.

This category system is only the first step of the analysis. A detailed analysis must also differentiate according to survey methodology, sample and type of data (direct quotations as opposed to summarized statements by the authors) as well as put the analyzed text passages in relation to each other. Furthermore, it can be assumed that further studies that could be relevant for the analysis (e.g. STECCO[2]) are still being evaluated and have not yet been published. However, further analysis can now build on the category system that has been created.

[2] https://www.dipf.de/de/forschung/aktuelle-projekte/stecco-start-in-die-tertiaere-bildung-waehrend-der-corona-krise-chancen-und-herausforderungen.

Table 3. Category System.

List of categories	
Values & wishes University of the Future	**Didactic Model University of the Future**
Framework conditions	**Further development of traditional higher education teaching and learning**
Participation	Accessibility
Solidarity and support	Flexible time management
More inclusive teaching and social opening	No compulsory attendance
Transparent communication	Considering social spaces for living and learning
Expansion of existing support services	Digital office hours
Governance	Variety of teaching and learning formats
Institutions shall maintain flexibility and willingness to change	Extracurricular events with external guests
Put the topic of sustainability on the agenda	**Primacy online**
Teaching and Learning	Clear preference online classes
Consider individual student needs	Online exams
Involve students in the design of teaching and learning	**Primacy face-to-face & online**
Quality of education – keep the conversation going	Combination of digital and face-to-face formats
Openness to new things	Maintain digital formats
More practice, less theory	Use of interactive/digital tools
Didactical further development	Online classes as additional formats – digital support
Challenges face-to-face teaching and learning	Lecture recording
Fear of many social contacts	Digital theory lectures
Potentials face-to-face teaching and learning	Hybrid teaching and learning
Work-Life-Balance; separation work and life	Flipped Classroom
Practical experience	Format decided according to quality of teaching and learning
Motivation through social encounter	**Primacy face-to-face**
Better exchange with teachers	Clear preference face-to-face formats
Potentials digital teaching and learning	

(*continued*)

Table 3. (*continued*)

List of categories	
Better digital availability of teachers	
Better use of LMS	
Promoting independence	
Time-saving	
Increased flexibility	
Learning according to own learning type and pace	
Time flexibility	
Spatial flexibility	
Regarding health	
Regarding mental health	
Regarding work	
Regarding care responsibilities	
Challenges digital teaching and learning	
Higher workload	
Lack of social exchange	
Discussion impeded	
Information missed	
Technical challenges	
Personal development more difficult online	

Nevertheless, the evaluation already permits initial analyses by main categories. **Values and wishes** that concern the university of the future relate to framework conditions for studying, whereby aspects such as participation, inclusion and transparency should be given even greater consideration in the future. Flexibility and willingness to change should also be maintained at the governance level, while topics such as sustainability should be addressed more thoroughly. With regard to teaching and learning, students articulate, among other things, a need to be involved in the design and to take individual needs into account. For **face-to-face or classroom teaching and learning**, potentials are formulated above all in the social and practice-oriented areas, while those of **digital teaching and learning** are seen in particular in the flexibility in various aspects as well as the promotion of one's own independence. However, challenges are also formulated that partly correspond to the potential of face-to-face teaching, but also address a higher workload, technical challenges, and a lack of information. The **didactic model for the university of the future** is only described in a few cases as being based purely on classroom or digital teaching. Rather, many studies call for the further development of traditional university teaching and for the advantages of digital formats to be considered.

Digital formats can completely replace single purely theory-based lectures, but in most statements they are seen more as a way of digitally supporting classroom teaching and thus offering more flexibility and more inclusive solutions.

In summary, the following can already be stated:

- Students articulate differentiated wishes and values for the university of the future with regard to framework conditions, governance, teaching and learning.
- Numerous potentials and challenges of classroom and digital teaching and learning are articulated.
- For the future of studying, it is important to combine classroom teaching and learning and digital forms in order to complement face-to-face teaching, to optimize it, and to make it more flexible and inclusive.

5 Conclusion

Due to the special pandemic-related study situation, students have become familiar with different ways of studying during the pandemic. By becoming more aware of what constitutes good teaching and learning for them, they perceive individual quality dimensions and requirements and thus also strengths and challenges of different study settings, such as the flexibility of digital formats and at the same time the limited possibilities of digital social interaction. Universities can use this awareness and benefit from student perspectives to jointly design future-proof higher education, involve students as experts for good university teaching and learning, and thus sustainably build on the experiences jointly made – in order to shape the future of studying. This article compiles studies on the future of higher education and presents the inductively formed category system as the first result of a structuring content analysis, which provides initial indications of significant topics, statements and preferences.

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