

College television at German higher education institutions in the wake of the COVID-19 pandemic

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Abstract

Higher education institutions (HEIs) create a range of media products. Among them are college media produced by students. Even though this heterogeneous media form exists throughout Germany and is therefore part of HEIs' public visibility, it remains unnoticed in the field of higher education communication. This study aims to examine the specific type of college television (CTV) in terms of organizational and editorial structures and altered workflows due to the COVID-19 pandemic. The study combines a two-wave online survey among all operating German CTV stations in 2017 and 2021 with a qualitative social media analysis of twelve stations. In 2017, intra-curricular CTV operations rated a higher satisfaction level than extra-curricular cases, whereby the explicit support and cooperation with the HEI scores better. The data shows that CTV operations with an intra-curricular linkage to the respective HEI enjoyed a more stable continuity than extra-curricular operations, some of which were forced to cease production over the course of the COVID-19 pandemic. The pandemic has limited the CTV operations' workflows in terms of access to equipment and social exchange but has also stimulated a shift in topic selection and distribution strategy.

Keywords

college media, college television, practical media training, online survey, social media analysis, COVID-19

1 Introduction

Due to its low-threshold access, college media enable students of all levels to gain practical experience in their respective higher education institutions (HEI). "Anyone associated with professional media knows that many people in these fields got their first experience and often, career orientation, through participation in their college radio station, television operation, [or] newspaper" (Adamo & DiBiase, 2017a, p. 3). As a practical training ground for media production, college media initiatives combine educational, social, and strategic value for HEIs. Since practical media training applies the methods of project-based learning (Larmer, Mergendoller, & Boss, 2015), it offers a scope of experience that HEIs can only provide to a limited extent. This is especially true of research universities with a high proportion of theory-based learning modules and academic staff offering fewer practical skills than the universities of applied sciences. In terms

of employability, college media contribute to a profession-specific profile of HEIs and thus may become a decisive factor for some students in selecting their location of study (Kern, 2020).

Along the lines of the international research area of college media, the term refers to student-performed media productions at all types of HEIs (Adamo & DiBiase, 2017b). Student involvement is the crucial criterion for the selection of examined activities in this paper. This applies whether or not teaching staff guide the production. All three college media formats (print, radio, television) harness online-based distribution and extend their media outreach to social media channels, which should therefore be considered in any examination. College media production can be independent of academic programs (extra-curricular), in which case students run the operation entirely. Alternatively, college media can be integrated into a media-related curriculum or into interdisciplinary key competencies (intra-



curricular). Following this definition, college media are part of the communication of HEIs (see, e. g., Fähnrich, Metag, Post, & Schäfer, 2019). Even though college media exist throughout Germany and are, therefore, part of the HEIs' public visibility, the media form has been largely underexplored in the field of higher education communication.

This article analyzes the specific college media form of college television (hereafter abbreviated as CTV) in its current state. The term "television" is not tied to the condition of operating based on a broadcast license but rather refers to periodically published audiovisual content. Previous research on the subject is scarce and outdated. The case presentation in Brofazy (2001) sets German CTV in the realm of practical media training in higher education. The lack of publications (see Section 2) underlines the demand for an overarching, systematic study of the German CTV landscape. The study presented here consists of three research steps. In 2017, all active CTV operations were surveyed regarding organizational and editorial characteristics. The part of the online survey that focuses on editorial structures was repeated in 2021 in order to gain a better understanding of the impact of the COVID-19 pandemic. Furthermore, the survey data was supplemented by a social media analysis in 2021.

After a brief discussion of the state of research, the study's research questions and multi-step research design are presented. The following section combines findings on the organizational and editorial structure as well as CTV's response to the pandemic. Implications drawn from the study and its limitations close the article. The paper provides suggestions with respect to a steady and sustainable CTV landscape in Germany. By examining college television as an example of college media, the study attempts to place this media form on the research agenda of HEI communication.

2 State of research

While college media in the US (Wotanis & Richardson, 2015) and some European countries, e. g., Spain (Marta-Lazo & Gonzales-Aldea, 2018), are recognized as a relevant field of research, in Germany, college media have not received adequate attention among the academic community. After a few studies on college radio in the 1990s and early 2000s (Fischer, 1996; Felling, 2002), sporadic publications on college television emerged (Brofazy, 2001; Voigt & Steinmetz, 2016). The contributions of Brofazy (2001) presented national and international showcases rather than a systematic examination of organizational structures and workflows of college media. As a precursor to a community-focused conference, the publication of Voigt and Steinmetz (2016) pointed the finger at the respective legal foundations and distribution strategies of CTV stations and made a plea for stronger, platform-based collaboration. The latest research findings on the content quality and social media strategy of German CTV were provided in two unpublished master's theses (Altmeyer, 2011; Hasenheit, 2012). Altmeyer (2011) combined a content analysis of seven stations with a survey of fifteen stations. The study analyzed differences between stations that were integrated into a curriculum and those that were not, concluding that curriculum-based CTV demonstrated higher content diversity and greater team continuity. This initial finding of significant differences in the CTV landscape calls for a further examination based on a larger station sample presented in this paper. Hasenheit (2012) conducted a survey and revealed that CTVs' Facebook performance was a key factor for recipient orientation and viral brand building. Due to the growing reach of platforms such as Twitter within the academic community (Scheu & Schedifka, 2018) and Instagram among young online users (Beisch & Koch, 2021), these findings require an updated examination. The lack of published research calls for a fundamental and systematic study of the contemporary state of German CTV.

As an integral part of HEIs' visibility, CTV can be classified as organizational communication (Theis-Berglmaier, 2013). However, there is little knowledge about what topics are communicated to which target groups and whether that only includes HEI members or also local / regional audiences. CTV, as media operations in the center of HEIs, may cover a broad area of topics, such as scientific topics and reports on research projects next to teaching issues and organizational matters, as is also typical for the representation of HEIs in news media (Fürst, Vogler, Schäfer, & Sörensen, 2021). Depending on CTVs content approach, science communication, according to the broad definition of Schäfer, Kristiansen, and Bonfadelli (2015), may be seen as a component of their production. This study assessed the relevance of integrating CTV into the complex research field, which had not previously been considered (e.g., Bonfadelli et al., 2017).

HEI communication research shows that communication departments in HEIs have increasingly established their online presence (Peruta & Shields, 2015; Metag & Schäfer, 2019). Regarding their overlapping target groups and the persistent and more experienced personnel, the media content of HEI communication departments has become a potential competitor for college television outlets. A small number of studies briefly discussed the link between CTV and HEI's communication departments. Escher (2001) described audiovisual media as a connecting element between HEI communications departments and college television, suggesting a collaboration between the two. A decade later, Rauterberg (2012) focused on audiovisual productions and pointed out the similarities between channels that are associated with the HEI management level and the ones that are student-run. Metag and Schäfer (2017) found that about five percent of Facebook posts from German-language HEIs consisted of video content. However, the increasing multimedia content on social media channels could intensify content similarities between HEI communication departments and college media. This poses the

questions of how CTV differentiates itself from the coexisting media productions of HEI communication departments, to what extent they cooperate and if CTV productions are inclined to stress topics in favor of the HEI's representation purposes.

The aim of the multi-step research presented in this paper is to elaborate on the educational and social value of CTV within German HEIs and to determine its role within higher education communication. Furthermore, the paper provides insights into editorial changes due to the COVID-19 pandemic. Specifically, the following three research questions direct the study:

- 1) What organizational structures can be identified in German CTV?
- 2) In which editorial conditions do German CTVs operate?
- 3) How did the COVID-19 pandemic affect the editorial structure of German CTV?

3 Research design

To answer these questions, two waves of online surveys were conducted in the summer of 2017 and spring of 2021 after the COVID-19 pandemic breakout. The standardized questionnaires were performed using the web feature *SoSci Survey*. The initial online survey aimed at a comprehensive examination of the status quo of German CTV. Combining the three sections – organizational, editorial structure, and sociodemographics – the questionnaire consisted of 56 variables. The organizational structure included variables regarding CTV's location, HEI linkage, team structure, and learning approach. The questions on CTV's editorial structure covered workflows, content design, release frequency and distribution strategy, equipment, as well as further financial resources. In the third section, the participants' age, HEI member status, and CTV working level was surveyed. Evaluation and satisfaction items at the end of the survey were constructed as four-point Likert scales (without a "don't know" response option)

in favor of the data significance as recommended in Porst (2014).

Over the course of five years (2012–2017), a comprehensive list of German CTV projects was systematically generated and regularly updated. In the summer of 2017, at a total of 399 higher education institutions (Glässner, 2017), 64 active CTV projects were identified. The number of active CTV cases is in constant flux and therefore corresponds with the respective time of the online surveys. The first survey was conducted from June 2 to July 7, 2017. The first reminder was sent one week after the initial invitation, and a second reminder one week before the survey period's end. The evaluation of the data collection determined four invalid cases. One case turned out to be entirely irrelevant for analysis since the participant claimed no student involvement. In the other three incidents, two members of the same CTV initiative participated in the survey. Since each CTV project counts as one case, multiple data sets per case would have distorted the results. Consequently, one set of data had to be removed in those incidents. The researcher chose to discard each less extensive data set with a lower relative-speed index, which detects a noticeable deviation compared to the average response duration. After thorough data cleansing, 35 CTV operations participated in the first online survey, which equated to a response rate of 55 percent. Reasons for non-participation may have been that several members of one operation noticed the e-mail but relied on someone else to take care of the task. In this context, regularly changing responsibility holders could have played a role as well. Furthermore, it is possible that the operation's activities were either paused at the time of the survey or that the request simply got lost in the day-to-day production routine. The average questionnaire completion time was 15 minutes and thus corresponded to the mentioned duration in the questionnaire's introduction. All respondents completed the survey.

Because the outbreak of the COVID-19 pandemic fundamentally altered everyday life at HEIs, the second survey wave served

as an update of the German CTV community. In order to identify potential changes in production routines over the course of the pandemic, ten variables were revisited in the second wave, mainly consisting of the editorial structure section. In addition, items on changing conditions during the pandemic were inserted regarding limited facility access and content implications. The condensed second wave questionnaire (10 variables) occupied an average of two and a half minutes. It was conducted between May 6 to May 13, 2021. This relatively short period was due to the brevity of the questionnaire. The total number of German HEIs increased to 423 in 2021 (Destatis, 2021). However, the identified active CTV operations that received the survey invitation decreased from 64 in 2017 to 44 in 2021. Three of the twenty participants did not complete the survey. Two of those participants showed a very short participation time and were, therefore, excluded. The second wave delivered a response rate of 39 percent. The lower response rate was certainly a result of the shorter survey period. Since the quick survey in 2021 ran for one week, only one e-mail two days before the end of the survey period reminded the target group of their participation. The results do not claim to be representative. Regardless, the data helped to reveal unsteady operating situations caused by the pandemic. The data analysis of both waves was performed using SPSS.

Since the relevant target population – college television initiatives in Germany – is rather small, a complete count of the population was achievable. Researching special populations usually leads to the challenge of dealing with small case numbers. Nevertheless, in media research, studies about special targeted populations exist (e.g., Kristiansen, Schäfer, & Lorencez, 2016). To underpin the data strength of low case numbers, Wagner (2009) recommended combining quantitative and qualitative multiple-step research. Accordingly, the research was expanded to include a qualitative social media analysis in order to answer the third research question. Based on the updated list of operating CTVs, the structured sample of the social media

analysis focused on one exemplary case for each federal state that hosts CTV (excluding Bremen, Hamburg, Lower Saxony, Saxony-Anhalt, and Saarland). Since Baden-Württemberg has the highest concentration of stations, two cases, one at a research university and one at a university of applied sciences, were selected for the social media analysis. Maintaining both an Instagram account and a YouTube channel was another decisive criterion. Twelve selected CTV cases were examined with respect to their YouTube channel uploads before the pandemic in 2017 and since the pandemic in 2020 as well as in 2021, observing output discontinuities (see Table 3 in the supplementary material). Special attention was paid to the Instagram posts addressing the COVID-19 pandemic in three semester terms. An exemplary set of two to three pandemic-related posts was selected from each of the twelve accounts, depending on the post volume in the summer term of 2020 (15), winter term of 2020/21 (10), and summer term of 2021 (5) (see Table 4 in the supplementary material). Those thirty topic-relevant posts were screenshotted and subsequently and inductively coded using MAXQDA in order to gain insight into the choice of topics and information on their production workflows during the pandemic. The visual feature *Code Relation Browser* provided information on the topics addressed over the course of the pandemic (see Figure 2 in the supplementary material). Moreover, prior knowledge attained through years of involvement with the college television community enabled the author to reflect on the impact of the pandemic on social components, such as in-person team effort, interactions, and gatherings.

4 Results

Despite the fact that all CTV conditions are intertwined, the presented results are divided into three areas in compliance with the research questions. First, emphasis is placed on the organizational structure, shedding light on the occurrence of CTV in Germany and the institutional environ-

ment. The second section characterizes the editorial structure of the surveyed CTV initiatives. Lastly, the results of the influence of the pandemic are outlined. College media can be classified into intra- and extra-curricular structures. Therefore, the results highlight the differences that exist between the two CTV groups.

4.1 Occurrence and organizational structure of German CTV

The online survey detected a nationwide CTV occurrence. Thirteen federal states were represented in the survey (see Table 6 in the supplementary material). Baden-Württemberg, North Rhine-Westphalia and Bavaria led in the number of CTV operations. They were also the federal states with the highest density of higher education institutions. The regional differences in the mere appearance of German CTV operations are also related to the media industry's overall infrastructure. On the one hand, some federal states' media regulations produce more favorable conditions for practical media training in higher education. On the other hand, the federal states Bavaria, Baden-Württemberg, North-Rhine Westphalia, and Berlin are the nation's major media hubs, which is positively reflected in the training environment of their CTVs. Baden-Württemberg and North Rhine-Westphalia have regional networks in common. *HD campus* and *NRWision* promote CTV activities in each federal state, which may have had an effect on the number of CTV initiatives.

Three federal states were missing in the 2017 data (Berlin, Hamburg, Bremen). One of the many participants who listed their operation simply as *CampusTV* may have been affiliated with the University of Bremen since it was a running CTV at the time. *TestbildTV*'s (Hamburg University) activities had been phased out at the time of the survey. The student magazine *XEN.ON*°, which aired regularly on the Berlin open channel *Alex* until 2018, was a media training ground for students from Berlin and Brandenburg. Since the media board Berlin-Brandenburg (mabb) was responsible for the program and involved the participation of several HEIs, it could not be

included. This project was transformed in the summer of 2020 into a partnership between mabb and FU Berlin and has since been operating under the name *uni.corn*.

Most CTVs were established at research and technical universities (21), followed by universities of applied sciences (14). This proportion was apparent in both survey waves. Given that there are more universities of applied sciences than research universities in Germany, the high number of research university-based CTVs is remarkable. One could argue that the conditions at universities of applied sciences are more favorable for practical media training within classes (Nowak, 2019), which eliminates the need for CTV operations. The results indicate that students at research universities also long for practical training, which participation in CTV may provide.

The majority of operations were integrated into HEI curricula. Both survey waves identified intra-curricular structures in over half of the participating CTVs (71% in 2017 and 60% in 2021). Two primary forms of curricular linkage emerged: media-specific and field-unspecific implementation. Media-related program implementation, which occurred more often at universities of applied sciences, took the form of a course or an internship. A rare number of field-unspecific intra-curricular cases were integrated into key qualification programs such as career-oriented competencies. These overall competencies were usually part of undergraduate programs at universities. In the open text response, few respondents described mixed forms of curricular linkage and pre-determined temporal commitments (e.g., seven hours of TV production per week). Given the curricular linkage on the one hand and a constant turnover of staff on the other, the dominant forms of learning in CTV were learning by doing and peer learning, in which experienced students supported new team members (see Table 1). Learning through instruction and based on practice theory occurred almost exclusively in intra-curricular initiatives, which in rare cases was even performed by employed editorial managers.

Table 1: Learning approach in German CTV 2017 (n = 35)

	Intra-curricular cases (n=25)		Extra-curricular cases (n=10)	
	Frequency	Percent of cases	Frequency	Percent of cases
Learning by doing	19	54	9	26
Peer learning	16	46	9	26
Reflection	15	42	3	9
Instruction	18	51	1	3
Theory-based learning	7	20	0	0

The results show that CTV operations with an intra-curricular linkage to the respective HEI demonstrated a more stable continuity, even if the productions took place during class hours and with long breaks between terms. The majority of CTV initiatives used the HEI infrastructure. When asked about internal cooperation, one-third declared a collaboration with superordinate media centers in 2017. Another third had ties to the student body, resulting in financial support. In contrast to these technical and administrative connections, there were six CTV initiatives maintaining field-specific internal cooperation. While most had links to communication and media studies, there was also one cooperation with the Department of Computer Science as well as the France Centre at the Faculty of Philology. Additionally, one special case cooperated with the eLearning team of the university, which might have entailed the production of educational content. Only seven CTV cases expressed no in-house cooperation. In 2021, at least seven out of twelve intra-curricular CTV cases had a reliable contact person at the HEI. This was not the case for each of the five extra-curricular respondents. Consequently, the institutional linkage is a decisive trait of German CTV, which should be considered in further studies.

4.2 Editorial structure of German CTV

Intra-curricular cases pursued a more versatile distribution strategy, operating on three to four channels, while extra-curricu-

lar cases focused on one to three channels. According to the first survey wave, streaming services, such as YouTube and Vimeo, led the list of distribution channels (83%). Facebook was the second most important distribution platform for German CTV in 2017 (80%). The importance of social media activities was reflected in that 60 percent of the cases had a social media editing position. Furthermore, 54 percent of CTV participants provided content on their website. One initiative maintained its own mobile app. Seventeen percent distributed their content on digital screen systems inside the HEI buildings. Sixty-three percent of the 2017 survey participants declared that they broadcasted their content on a local or regional television program, eight of which were licensed-based and distributed digitally via cable (DVB-C) and / or antenna (DVB-T). Due to their established brands, local and regional TV stations were able to increase the reach of niche programs, such as CTV. Conversely, local and regional stations also benefited from CTV content, which contributed to the diversity of the programs without inflicting additional costs. German CTV seems to be aware of this distribution potential. However, only 34 percent reported media partnerships with private local and regional TV stations. One example among others mentioned in the 2017 survey, was the regional station *Rhein-Neckar Fernsehen*. The six participating CTVs located in North Rhine-Westphalia distributed their content on the regional channel *NRWision*. At the time of the 2017 survey, the channel *HD Campus* was a state-wide distributor for CTVs located in Baden-Württemberg. An equal number of respondents reported broadcasting on *Offene Kanäle* (community channels). Correspondingly, next to the respective HEI's student community (91%), the content was targeted toward the local / regional community (51%). Here, all extra-curricular respondents claimed students as their target group. Only three of them claimed to target local / regional audiences.

This coincided with the chosen topics stated in the 2017 survey. The top three topics in German CTV were arts and cul-

ture (85%), student life (79%), and higher education politics (73%). Clearly, certain topics overlapped. Cultural topics, in particular, were linked to everyday student life, for example, in festival reports or stories about young musicians. With further topics such as public affairs (68%), college sports (62%), science and research (56%), and administrative affairs (44%) to a lesser extent.

Several differences between the curricular groups could be observed in these categories. Public affairs were the second most frequent topic among the intra-curricular cases (79%). One respondent highlighted the specific field of Oecotrophology, which sets the focus on research topics. This emphasis on intra-curricular cases was underpinned once again by the learning objectives' category of science journalism, which 23 percent of participants confirmed in 2017. College life (100%) and college sports (90%) were more strongly addressed by extra-curricular cases, a result of students being their main target group. The number of chosen topics varied from one to eleven. On average, German CTV covered five to six different topics ($M=5.7$, $SD=2.52$), with intra-curricular operations tending toward a more complex topic variety, confirming Altmeyer's (2011) findings.

Sixty percent of participants claimed that the CTV productions contributed to the HEI's political debates. In the 2017 survey, 17 specific examples were described. Among other instances, pressure on the rectorate within a CTV report prevented a media studies program from being abolished. One case took a political stand when right-wing parties appeared at the university. Other topics repeatedly mentioned were student body elections and the higher education tuition debate at the respective HEI in the early 2000s. A few open text responses could be construed as strategic communication measures, in particular, the design of a new HEI logo, the 150th anniversary of the university, and the HEI presidential election. Eight respondents declared CTV collaboration with HEI communication departments, two of whom reported the above-mentio-

ned topics. However, these small case numbers do not provide a sufficient basis for further interpretation.

Unsurprisingly, the CTV content in 2017 was produced in a variety of journalistic formats, such as short reports (87%), magazine shows (79%), vox pops (58%), news packages (54%), and news shows (46%). However, non-journalistic formats such as event streaming, promotional films, and educational content from the HEI were common as well, especially in extra-curricular initiatives. Short documentaries accounted for 42 percent of formats among all respondents. Fictional content was quite exceptional. In 2017, nearly all respondents stated that the team created unique periodically recurring formats/programs, such as “Fehlpass” (a sports talk show), “Band-Check” (an introductory music show), or “Spotlight” (a talk show with HEI personalities).

According to the first survey wave, the budget of German CTVs differed greatly between 0 to 50000 euros per semester. That said, the majority of cases with a larger share of extra-curricular initiatives cited budgets of between zero to several hundred euros. The revenue was mainly generated by the HEIs themselves, through support from academic departments or regional media boards. Budgets sourced through student councils, donations, or associated member fees were mentioned rarely. One problem was the missing institutional infrastructure. Due to loose organizational structures, the opening and management of bank accounts, for example, was nearly impossible, depending ultimately on the level of individual commitment. Half of the cases stated that they used TV studios for production. The default equipment, however, was low-budget digital devices for mobile use.

4.3 Pandemic impact on German CTV

In 2017, most respondents claimed that the team worked well and consistently. This high level of satisfaction changed drastically due to the COVID-19 pandemic. Seven cases had to cease their operations entirely. In 2021, the survey respondents stated a series of challenges. The

shutdown of in-person classes resulted in limited access to equipment and facilities on campus, either because entering buildings was denied by the rectorate or because the students were simply not on site. Consequently, the pandemic-related restrictions caused a decline in team size. Usually, the teams recruited new members at the beginning of the semester through open-door events or in-person workshops. All of these measures could not, or only under certain hygiene regulations, be implemented in the summer term of 2020, winter term of 20/21 and summer term of 2021. Furthermore, respondents reported a discontinuation of familiar workflows. Since the pandemic, production routines have relied on virtual editorial meetings. Thus, the social exchange and the feeling of belonging to a peer group, which is a key motivator for student involvement, has been lost due to the changed working environment. Correspondingly, the majority of participants disagreed with the statement “the pandemic has made the team grow stronger together” ($n=17$, $M=2.8$, $SD=0.8$, on a scale from 1 “completely agree” to 4 “completely disagree”).

Restrictions caused by COVID-19 were also reflected in the content output. Table 2 compares the declared production volume before and since the pandemic. The greatest disparities can be seen in the bold category values. While no participant declared production volumes of fewer than ten minutes before the outbreak of the pandemic, almost a third of the participants have since reported producing short segments. The decrease of the category 60–90 minutes, especially, indicates an overall volume reduction. This result can be confirmed by the evaluation of YouTube uploads within the social media analysis (see Table 3 in the supplementary material). In five of nine cases, uploads decreased by 2020. Channels that did increase uploads in 2021 did not return to the same level as in 2017. Four cases with higher upload numbers than in 2017 emphasized pandemic-related content attempting to present the changes at the HEIs to the students. Three CTV stations which launched a YouTube channel after 2017 show some-

Table 2: Average production volume in minutes per semester (n = 18)

min	prior to pandemic(%)	since pandemic(%)
<10	0	28
10–30	11	6
30–60	11	39
60–90	44	11
>90	33	17
Total	100	100

what stable upload numbers in 2020 and 2021. The uploads marked no difference regarding the station's curricular linkage.

However, drastic times like the current COVID-19 pandemic, besides all the disadvantages for CTV cases, also meant a potential, albeit forced, boost in creativity. Not only has the distribution variety of cases evolved during the COVID-19 pandemic, a shift in content design can also be seen. In the second survey wave, participants agreed that students created new formats, such as online dance performances and other instructional clips supporting more exercise at home. The social media analysis revealed that Zoom talks were a common format used to replace news shows and other recurring formats formerly produced in the TV studio. Among them, a Zoom interview with the HEI's rector reached over 1400 views on the YouTube channel of *stufe.tv*. This was a notable achievement as CTV clips usually have views only in the hundreds. This excludes incidents such as the live stream of national TV news host Ingo Zamperoni's inaugural lecture as honorary professor at HDM Stuttgart, which received nationwide attention. The remote production conditions manifested themselves in terms of content aesthetics. In particular, the content recorded on Zoom resulted in a lower visual quality. Since this format was part of everyday life for many students during the pandemic, the CTV audience was presumably not bothered by the image quality.

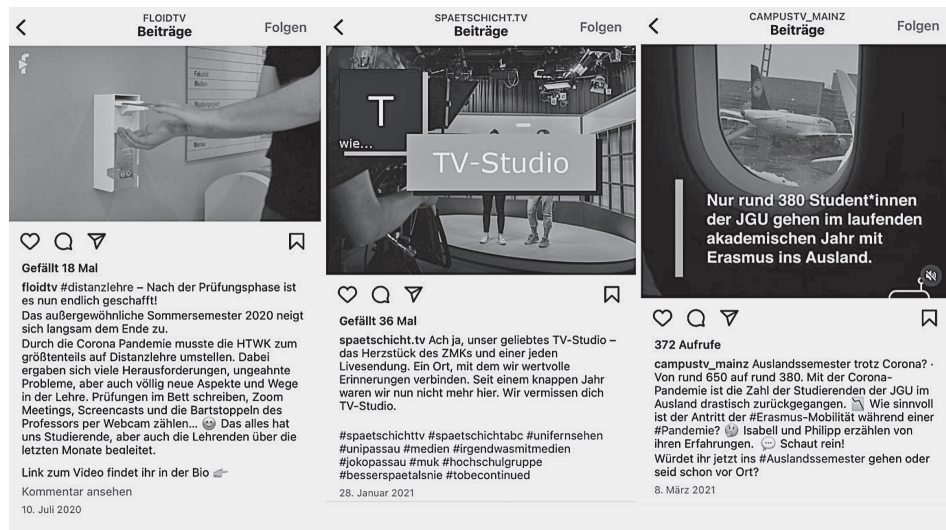
In 2021, 41 percent of the respondents claimed that they had explored new social media platforms on which they were more heavily reliant than was the case pri-

or to the pandemic. New accounts could be observed on Instagram and Twitch. By following the CTV Instagram activities, the author discovered that student members even posted from their private accounts using a CTV-related hashtag if no unique account existed during the peak of the pandemic. This indicates that digital obligations beyond audiovisual production have become more complex (albeit not exclusively) due to the pandemic.

According to the second survey data, most of the cases saw the emergence of new topics over the course of the COVID-19 pandemic. This is further substantiated by the Instagram analysis. In addition to a common hiatus during the non-lecture period, several months of inactivity can be identified in three cases at the beginning of the pandemic. Eight repeatedly communicated topics were identified in the social media analysis of pandemic-related posts (see Figure 2 in the supplementary material). The most common category coded (especially in the summer term of 2020) was the distracting activities in times of isolation (associating #stayhome), which served an entertainment purpose. This topic was followed by behind-the-scenes posts, such as the shutdown of the broadcast studio at *spaetschicht.tv* at the Bavarian University of Passau (Figure 1). Along the same lines, posts with the aim of team recruiting appeared. The third most common topic was related to HEI life during the pandemic. This included COVID-19-related rules on campus, as in the post of *floidTV* at the Leipzig University of Applied Sciences from July 2020, shown in Figure 1.

Besides these more frequent topics, the impact of the pandemic on students' mental and financial situations was addressed, for example, the displacement of popular student jobs. Several CTVs also provided information about studying abroad during the pandemic, as shown in the example of *Campus TV Mainz* at the University of Mainz in March 2021. Furthermore, some posts addressed the still intact local cultural life. In the analysis, only one post relating to science could be identified. In this case, the post reported

Figure 1: Examples of CTV posts on Instagram during the COVID-19 pandemic



Own composition.

on COVID-19 treatment research at the respective HEI (see Table 5 in the supplementary material).

The analysis indicates that during the pandemic, CTVs took on the role of becoming a source of information for students at their respective HEIs. In doing so, they reduced previously common topics such as culture, sports, and public affairs (see Section 4.2). The social media analysis also shows that CTVs cross-promoted their online distribution channels. While direct linking in Instagram posts is not possible, the posts often referred to new YouTube uploads or the Instagram account's bio.

The adaption of production routines and flexibility in content design, revealed in the results of both the second survey and the social media analysis, only came about because German CTV productions are predominantly digital. When asked to rate the statement “We experienced good support from the HEI in this challenging situation” in 2021, the result was a somewhat modest ($M=2.9$ on a scale from 1 “completely agree” to 4 “completely disagree”), with a slightly better among intra-curricular cases ($M=2.5$). However, most participants approved of the statement, “We are satisfied with the way we solved the transition to remote produc-

tion” ($M=2.2$). At the end of both online surveys, the participants were asked to respond to the statement, “I am very positive about the future of the station.” In 2017, the statement was rated positively ($n=35$, $M=3.1$, $SD=0.8$, 1 “completely disagree”, 4 “completely agree”). In 2021, the response to the slightly rephrased item “I believe the future prospects for our CTV are good” was still positive ($n=17$, $M=3$, $SD=0.7$).

5 Conclusion and limitations

For the first time in over ten years, this multi-step study has revealed the organizational structure and production conditions of German CTV initiatives. The distinction between intra- and extra-curricular initiatives corresponds not only with editorial preferences but also with differences in team continuity and satisfaction, which is consistently better in the first group. Conversely, extra-curricular CTV cases are particularly vulnerable, due to their loose organizational structure. The results of the second survey wave showed that the already quite dynamic CTV community had to cope with several challenges during COVID-19. Pandemic-related restrictions significantly constrained CTV workflows.

Seven cases even had to cease operations entirely. The media operations' basic digital workflows were the only factors that enabled the initiatives to continue under the pandemic-related restrictions. A lower production quality can be expected, at least for the transitional period from pandemic to endemic, since a part of the knowledge and experience imparted through peer learning was lost due to the stagnant generation change. This could be counteracted by local HEI cooperation, as in the case of *Campus TV Düsseldorf*, closer cooperation with regional media boards or umbrella brands of all HEI associated college media outlets, as in the case of *moritz.medien* at the University of Greifswald and *uni.CROSS* at the University of Freiburg. Regarding CTV's topics, the data revealed specific changes. While academic life was only marginally considered by German COVID-19 politics, and HEIs were left on their own at the beginning of the pandemic (Kissel, 2021), CTVs took on a clearer role of orientation for students than was the case before the pandemic. Since the examined CTVs reported on the circumstances during the pandemic, they played a more important role in the internal communication at HEIs. From a teaching perspective, HEIs can build on the existing infrastructures of practical media education and integrate them more strongly into curricula. This would in turn help stations maintain steady team sizes.

The study has a few limitations that warrant clarification. Due to the operational definition of CTV, individual and loose productions within academic communication and media programs were not included in the study. As the choice of social media platforms continues to expand, CTVs may have altered their social media routines considerably since the survey was conducted in 2017. Thus, the inclusion of the qualitative social media analysis seeks to update ongoing developments. Another constraint was the discrepancy among individual survey participants who provided information about an organizational unit. There was a risk that participants were not able to answer all questions about their respective CTV due to their involvement

period. In the interest of the participants' anonymity, clarification details on the CTV initiative were not queried in the second wave. Therefore, it was not possible to determine whether the same CTV representatives had taken part in both online surveys. Direct connections between both data sets can therefore only be tentatively drawn. The greatest limitation was the small sample size in both surveys, particularly in the 2021 update. Consequently, the study makes no claim to be representative and the results do not go beyond a descriptive analysis. However, in the overall context, it is viable to draw some conclusions about the changed conditions and apparent tendencies within the German CTV landscape.

This study does not contribute to the extensive assessment of CTV's content quality, nor does it create a definitive characterization of German CTV. However, it reveals entry points for future research. Within the study of CTV topics, science-related reports took on a subordinate role. Even in the pandemic, during which science topics were present across all media, they were virtually absent in CTV channels. It is worth delving into the reasons why this was not the case. In favor of an improved and consolidated community, field-independent CTV productions could thrive on members studying diverse disciplines. This would allow them to address the rich tapestry of academic fields and collaborate on the development of unique science formats.

In 2017, collaboration between CTVs and HEI communication offices was not so common (see Section 4.2). Given CTV's increased information-giving role in HEI matters during the pandemic, an in-depth re-evaluation seems pertinent. One example from the social media analysis could be the station *Campus TV Mainz*, whose respective university was classified as a social media specialist by Metag and Schäfer (2017). In this respect, comparative research into the interplay of co-existing CTVs and central communication departments in HEIs may be an interesting subject for future research for scholars in this field. The author encourages further re-

search into the influence of college media on the public visibility of HEIs and proposes anchoring college media research in the field of higher education communication.

Future studies on college media might apply broader theoretical concepts, such as network theory (Schmidt, 2019), to analyze the relationship structures across college media as well as community building of students and alumni through college media. Since this study highlights extra-curricular CTVs as being disadvantaged both structurally and in terms of resources, the findings also leave room to explore specific social and educational benefits within the involvement framework (e.g., Shemberger, 2017). The student involvement theory was introduced by Astin (1984), whose concept states that participation in extra-curricular activities has a positive impact on the course of study and graduation. While this study draws on training methods and production environment, it did not address issues such as students' self-perceptions as media producers. Future alumni surveys may provide insights regarding the impact of college media trainings on professional (and ethical) qualifications.

To conclude, German CTV has adapted well to the altered conditions of the COVID-19 pandemic, despite the temporary hiatus in production at the beginning of the pandemic for some stations. While the study found a decrease in team members and output as well as a lower visual production quality than before the pandemic, it also revealed a thriving creativity in terms of CTVs social media strategy and topic selection. Overall, the study indicated a shift in the role of CTVs as information providers during an uncertain period of student life.

Conflict of interests

The author declares no conflict of interests.

Supplementary material

Supplementary material for this article is available online in the format provided by the author (unedited). <https://www.hope.uzh.ch/scoms/article/view/j.scoms.2022.03.3286>

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