

The Impact of a Global Educational Disruption on Multimedia Production Processes in Open Universities: The Case of Korea National Open University and University of the Philippines Open University

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Abstract

This study explores the effects of the COVID-19 pandemic on multimedia production processes in two open universities, namely the Korea National Open University and University of the Philippines Open University. It also aims to identify best practices in multimedia production processes in open and distance learning institutions. The study employs qualitative research methods, including in-depth interviews, observation, and casual interviews with key university personnel. The data were analysed using thematic analysis. The study revealed that both universities demonstrated resilience and adaptability in their multimedia production processes during the pandemic. Identified best practices include embracing the do-it-yourself production approach, conducting training and supporting faculty and staff members, implementing massive open online courses and online training courses, leveraging webinars and live-streaming, and promoting a collaborative approach in production while maintaining technical standards. The research specifically provides the cases of the two mentioned universities. The effects of the pandemic on multimedia production processes may differ depending on the context of each institution. Nevertheless, the study's results can provide contextual practices based on the experiences of Korea National Open University and University of the Philippines Open University. Finally, the study provides insights into how open universities can adapt their multimedia production processes to navigate the volatile, uncertain, complex, and ambiguous world, especially during crises like the COVID-19 pandemic.

Keywords: COVID-19, educational media production, multimedia production, open and distance learning, technology, education

1. Introduction

The global outbreak of COVID-19 in early 2020 introduced unprecedented challenges and disruptions across various sectors, including education. Government-imposed lockdowns forced educational institutions to shift from face-to-face instruction to online learning modalities. Before the pandemic, multimedia materials had already been gaining traction in education; however, the abrupt shift to online learning has underscored the critical need for high-quality multimedia resources to support student learning. Mayer (2021) posits that designing materials in the multimedia format is essential for fostering meaningful learning experiences. This stresses the significance of multimedia production processes in teaching and learning environments, particularly in open and online distance learning contexts. However,

movement restrictions imposed by the lockdowns adversely affected these processes. Challenges such as limited access to recording studios, restricted mobility of production staff, and insufficient access to recording equipment exemplify the numerous problems that emerged during the pandemic.

To further understand the impact of the COVID-19 pandemic, two universities offering distance education (DE) that have also been involved for many years in multimedia production were studied. These universities were the University of the Philippines Open University (UPOU) and Korea National Open University (KNOU).

Established on 23 February 1995, UPOU is the fifth constituent university in the University of the Philippines system. UPOU stands as a trailblazer in open and distance e-learning (ODEL) in the country, serving as a pioneer in this field. One of its key mandates is to “[d]esign quality learning materials and objects, both in print and multimedia formats, for higher education and post-secondary instruction in the country (Open Distance Learning Act, 2014).”

Founded in 1972, KNOU is the first national university to offer distance learning in South Korea (An et al., 2016). According to the Regulations of KNOU (as cited in An et al., 2016), its objective is to “contribute to lifelong learning education by teaching and studying academic theories and methods, providing higher education through distance learning using information and communication media, cultivating talent, and realizing an open learning society.” (p. 21)

2. Literature Review

2.1. Multimedia Production and Distance Education

Using multimedia materials in educational contexts offers opportunities for interactive and flexible learning (Zulkifli et al., 2021; Atiku, 2021; Boté-Vericad, 2021; Hamman & Umar, 2022). In distance education, multimedia materials have long been a standard practice. For instance, the United Kingdom’s Open University, also known as The Open University, has been recognised as a “multimedia institution” since its inception (Greenburg, 1994). Boté-Vericad (2021) argues that creating videos is important when designing educational content in the context of DE. However, the production of multimedia materials is inherently rigorous, typically adhering to standardised pre-production, production, and post-production processes (Fakhrul Anuar et al., 2022; Saharja, 2021; Boté-Vericad, 2021; Gelisan & Mangubat, 2020).

2.2. Multimedia Production and COVID-19

The COVID-19 pandemic disrupted traditional multimedia production methods, as social distancing measures and lockdowns hindered conventional production and collaboration techniques. However, several studies show that multimedia production was still feasible even during the pandemic (Boté-Vericad, 2019; Fakhrul Anuar et al., 2022; Marzi, 2023; Gelisan et al., 2024). An illustrative case is the analysis of video documentary production in Malaysia by Fakhrul Anuar et al. (2022) from Universiti Utara Malaysia, which demonstrated how a video documentary was successfully developed using a combination of limited on-site shooting and online recording via a videoconferencing application. Despite mobility and human interaction constraints, this team managed to effectively produce video material.

2.3. Multimedia Production at UPOU and KNOU

To understand multimedia production processes at both universities before the pandemic, the relevant existing documents from both UPOU and KNOU were reviewed. This section discusses the two universities being studied, the offices that handle multimedia production and the processes they usually follow when developing educational multimedia materials.

2.3.1. UPOU Multimedia Production Process

According to Gelisan and Mangubat (2020), the multimedia production process at UPOU Multimedia Center (EMP) follows three standard phases (see Figure 1): pre-production, production, and post-production. In the pre-production phase, the course proponent proposes multimedia material development and, upon approval, chooses between a do-it-yourself (DIY) approach or full-blown production with assistance from the EMP. The design stage involves a quality circle (QC) consisting of content creators, multimedia specialists, instructional designers, and other specialists. Storyboards and scripts are crafted and evaluated for alignment with learning objectives, content accuracy, language, gender fairness, and accessibility (Gelisan & Mangubat, 2020). The production phase begins when the script/storyboard is ready, involving a team of video editors, graphic designers, scriptwriters, researchers, camera operators, production assistants, technical directors, and directors. Evaluation and recalibration are carried out to enhance learnability and usability. In the post-production phase, the material is submitted to the QC for evaluation, revision, and final approval. Once approved, the material is uploaded to the UPOU Networks website for peer and public review.

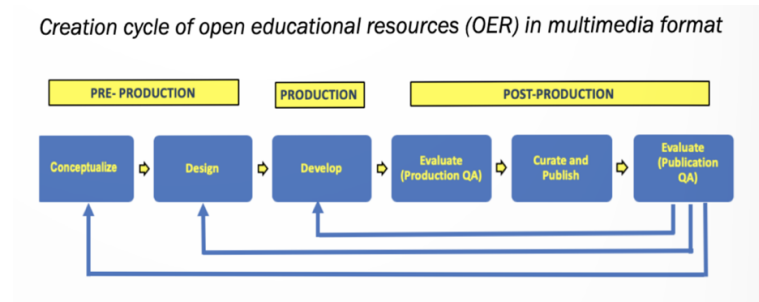


Figure 1. Multimedia Production Process of UPOU Multimedia Center (EMP) (Gelisan and Mangubat, 2020, p. 107)

2.3.2. KNOU Multimedia Production Process

The development of teaching materials at KNOU follows three distinct procedures, each corresponding to a specific content type. Figure 2 illustrates the production process specifically for multimedia lectures (An et al., 2016).

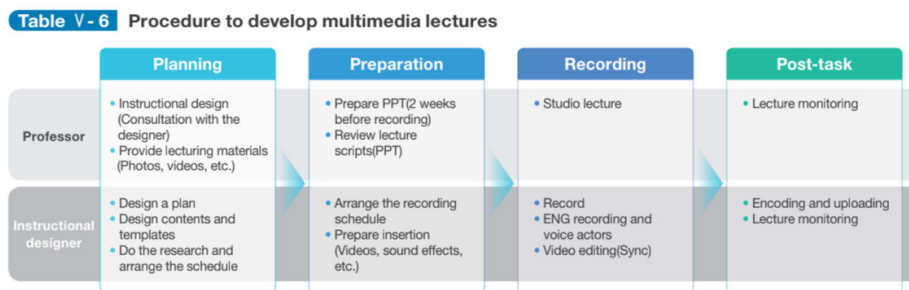


Figure 2. KNOU’s Multimedia Lectures Production Process (An et al., 2016, p. 99)

Multimedia lectures, as defined by An et al. (2016), are “e-learning lectures that maximize learning effects using videos, texts, and various visual materials” (p. 94). These lectures can be categorised into three types: (a) video with PowerPoint presentation (PPT), (b) audio with PPT, and (c) video only (An et al., 2016). For a comprehensive overview of these types of multimedia lectures, refer to Figure 3, which summarises the distinctions as presented by An et al. (2016, p. 95).

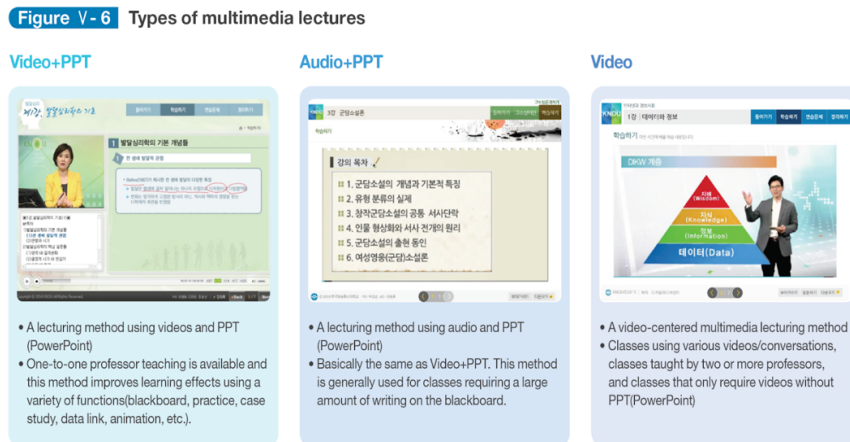


Figure 3. KNOU’s Types of Multimedia Lectures (An et al., 2016, p. 95)

2.4. Research Objectives

This research aims to compare the experiences of UPOU and KNOU in multimedia production during the pandemic, although both institutions were already involved in producing multimedia materials even before the pandemic. This makes these two universities valuable cases to explore and analyse in order to identify best practices that can be adopted for use in the new realities of online education and multimedia production. Specifically, this study seeks to address the following research questions:

- i. How have the multimedia production processes of KNOU and UPOU been affected by the COVID-19 pandemic?
- ii. What innovative approaches and strategies have these universities implemented to address the challenges posed by the pandemic?
- iii. What do these universities learn the lessons after experiencing multimedia production during the pandemic?

The findings of this study are expected to contribute to efforts in enhancing multimedia production processes and the literature on the production of multimedia materials designed for learning in the context of online and distance education.

3. Research Method

This study employed a qualitative approach to obtain a comprehensive understanding of the management of multimedia production at the aforementioned universities. In-depth interviews were conducted with one key personnel from both institutions to capture their perspectives and experiences. These interviews followed a semi-structured format, allowing for the emergence of themes organically during the course of the conversation.

Additional fieldwork was conducted at KNOU’s Digital Media Center (DMC) and UPOU’s EMP to augment the insights gained from the interviews. This involved direct observations and informal interviews involving one staff member each from the two centres, which provided contextual information that complemented the findings from the structured interviews. Moreover, a thorough review of two documents from both universities was undertaken to enrich the data collection process.

In order to anonymise the participants, a coding system was implemented, wherein they were identified as "Participant <<Letter>>." Participants A and B played key roles in multimedia production at each university and underwent in-depth one-on-one interviews. On the other hand, the other two participants

were informally interviewed during the observational phase. They were coded as Participants C and D. Thus, Participants A and C were from UPOU, and Participants B and D were from KNOU.

Additionally, it is important to note that for the KNOU side of the study, an interpreter facilitated communication during the interviews and casual interactions. This measure was taken to address any potential linguistic barrier and ensure that no crucial information was lost in translation, thereby maintaining the integrity of the study's findings.

Purposive sampling was employed as the sampling technique, ensuring that participants possessing the requisite expertise and knowledge were selected to provide valuable insights into the subject matter. This approach was instrumental in acquiring pertinent and meaningful information. Subsequently, a thematic analysis approach was utilised to analyse the collected data, facilitating the identification and organisation of significant themes and patterns inherent in the dataset.

4. Findings

This section presents the study's results categorised by research questions and university cases.

4.1. RQ 1: Effects of the Pandemic on the Multimedia Production Process at UPOU and KNOU

4.1.1. UPOU

Participant A described how “the multimedia production team faced challenges in conducting location and studio shoots due to the restrictions.” In addition, pandemic-related restrictions in the Philippines made it difficult to purchase multimedia production equipment. Participant A shared that, “since most of the available equipment was intended for studio use, [we] had to acquire additional equipment for DIY production”. However, they encountered difficulties in acquiring high-powered laptops, computers, and cameras due to supply shortages. In fact, Participant A mentioned that they “had to return funds received from a funding institution because [we] were unable to utilise them for equipment purchases”. Despite the team receiving sufficient funds for the university's multimedia production needs, they highlighted the lack of reliable suppliers who could provide the necessary equipment as a major challenge.

Additionally, the pandemic forced them to be more lenient with the technical quality of the materials produced. Participant A explained that “this leniency was due to the understanding that faculty members' homes were not designed for audio-visual production.”

Moreover, Participant A shared that they received numerous requests for training, assistance, and multimedia production from within the university and other higher education institutions. This increased demand resulted in the team having to work overtime. Participant A mentioned working more than 12 hours daily and exceeding the typical five-day workweek.

However, Participant A also stated that they “became more focused on creating multimedia learning resources that were necessary and relevant to the current scenario.”

4.1.2. KNOU

McCarthy (2020) reported that South Korea “successfully contained the spread of the virus and flattened its curve” as early as 30 April 2020. Participant B stated that they “personally did not witness any significant disruptions in multimedia production during the COVID-19 pandemic.” They were still able to access their studios and continue producing multimedia materials. However, Participant D mentioned having shifting schedules during the pandemic, but this did not decrease the production of multimedia materials.

One notable difference during the pandemic in South Korea was that professors were allowed to choose between developing their own video lectures or recording them in the DMC studio. Due to restrictions imposed during the pandemic, Participant B mentioned that professors could record their own multimedia lectures using videoconferencing software such as Zoom and/or open-source broadcasting software (OBS).

Additionally, prior to the pandemic, KNOU primarily used the Video-on-Demand (VOD) system, also known as LOD. However, when the pandemic struck, they shifted to the 'hyflex' (i.e., hybrid and flexible) approach, which allowed students who could not attend face-to-face classes to participate via Zoom. The regional campus classrooms were then equipped with videoconferencing equipment to meet these students' needs.

With the adoption of the DIY system in multimedia production, Participant B noted that the technical quality of the DIY multimedia materials was not initially up to par with those produced in the studio. However, Participant B mentioned that only a few faculty members, in particular the younger ones, chose to engage in DIY production.

4.1.3. Comparative Analysis

Substantial divergences were observed between the two universities due to differences in lockdown periods and pandemic responses in South Korea and the Philippines.

At UPOU, the pandemic precipitated several challenges in multimedia production. Participant A reported that movement restrictions impeded both location and studio shoots, compounded by significant difficulties in procuring essential multimedia equipment due to widespread supply shortages. This scenario necessitated a relaxation of technical quality standards, as faculty members' homes were ill-equipped for professional audiovisual production. Additionally, the heightened demand for multimedia resources, both from within the university and other higher education institutions compelled the production team to extend their working hours considerably. Despite these challenges, this period also fostered a more focused creation of multimedia learning resources that were pertinent to the prevailing educational context.

Conversely, as KNOU experienced minimal disruptions, Participant B indicated that access to production studios was largely maintained, though schedules were adjusted to accommodate safety protocols. One notable adaptation was the introduction of a DIY production option for faculty members, facilitated by videoconferencing software such as Zoom and OBS. Initially, the technical quality of DIY-produced materials did not match that of studio productions. However, this was mitigated because only a small subset of the faculty, predominantly the younger members, opted for this mode of production. Furthermore, KNOU transitioned from a primarily VOD system to a hyflex approach, which allowed students who were unable to attend face-to-face classes to participate via Zoom, while equipping facilities with videoconferencing technology allowed regional campus classrooms to support this hybrid model.

4.2. RQ 2: Strategies Implemented and Innovative Approaches Introduced by UPOU and KNOU to Address Challenges Posed by the Pandemic

4.2.1. Strategies Implemented at UPOU

To address difficulties in multimedia production, Participant A explained that they “have developed training programs aimed at building the capacity of the university's faculty and staff members.”

Furthermore, Participant A shared that they “have actively promoted the use of open-source software for multimedia resource development.” Additionally, they created ‘how-to’ tutorial videos to enable their colleagues to acquire the necessary production skills.

The EMP also leveraged existing equipment that have been available to faculty and staff members of the university. They provided best-practice videos to guide individuals in independently shooting and producing their own learning resources. For example, they produced a video on best practices in using mobile phones to record video lectures. These best-practice videos were also uploaded to the UPOU Networks website.

Moreover, the EMP implemented the practice of outsourcing production personnel to meet the increasing demand for multimedia materials. In doing so, they prioritised hiring individuals with expertise in instructional design to ensure the maximisation of their skills. Additionally, Participant A highlighted that “when a learning institution requested a partnership with UPOU for the development of interactive multimedia materials, [we] increased [our] recruitment of graphic designers and animators.”

4.2.2. Strategies Implemented at KNOU

To empower faculty members to produce their own content, the DMC took steps to provide the necessary equipment for DIY production. Faculty members were allowed to borrow the required equipment from the DMC to create their own multimedia materials.

The DMC also implemented a feedback system to address Participant B’s observation regarding technical aspects that may not meet the desired standards. Experts at the DMC provided the professors with constructive feedback and guidance, thus helping them improve the quality of their materials. This feedback identified areas for improvement. It also equipped professors with the knowledge and skills to enhance the quality of their multimedia materials. As a result of this strategy, Participant B noted that “there is no longer a gap in the technical quality of the produced materials.”

Furthermore, the institution developed video materials specifically focused on using video conferencing software such as Zoom, WebEx, and OBS to produce multimedia materials. This initiative meant to provide faculty members who were unable to access the studio with the necessary skills to record their lectures independently using these software platforms.

4.2.3. Innovations at UPOU

Participant A highlighted seven (7) key innovations that emerged at UPOU during this challenging period:

1. The EMP staff and faculty members relied heavily on DIY production equipment, which included web cameras, mobile phones, ring lights, noise-cancelling microphones, and portable greenscreens.
2. The EMP conducted training programmes to assist faculty and staff members in producing multimedia materials and improving video composition for webinars. These programmes aimed to ensure high-quality production despite the challenges posed by the pandemic.
3. The EMP developed and compiled best-practice videos that specifically focused on producing multimedia materials in home settings. These resources provided guidance and tips for faculty and staff members to optimise their multimedia production capabilities.
4. The training programmes developed by the EMP were converted into massive open online courses (MOOCs) to cater to the needs of other higher education institutions requesting training from the university. These MOOCs were made free of charge to faculty and staff members from the requesting institutions and the general public.
5. The university conducted numerous webinar programmes addressing pandemic-related issues through its faculty offices and in collaboration with the EMP. Interactive platforms such as Zoom and OBS were utilised for live streaming. The audience was given the option of participating via Zoom or watching the event stream on the UPOU Networks website, UPOU’s official YouTube Channel, or UPOU Networks’ Facebook page.
6. The streamed webinars were edited and broken into several segments, or chunks, to reduce cognitive load and make the information more digestible to learners. According to Participant A, “This practice of chunking has been employed even before the pandemic.” The complete recorded

sessions and the segmented materials were made available on UPOU Networks as open educational resources (OERs) for participants who missed the live webinars or wished to review the content.

7. The EMP sought technical personnel from other offices of the university to distribute tasks during the production. For instance, when the university organised its 2022 National Conference for Open and Distance Learning, the EMP was responsible for streaming the online conference. According to Participant A, “The successful streaming was achieved through the support and cooperation of other university offices, fostering a collaborative process that allowed for shared learning and the development of best practices for conducting online conferences.”

4.2.4. Innovations at KNOU

Participant B shared three key innovations in multimedia production at KNOU, two of which are relevant to the focus of this research. Additionally, there are other noteworthy innovations in this area:

1. KNOU conducted Hyflex Multimedia Lectures for their students. This strategy allowed them to choose their preferred platform for attending classes. Three options were offered: (a) face-to-face, (b) Zoom, and (c) YouTube/live-streaming.
2. Real-time lectures were recorded and edited to create VOD content, which was then used for blended classes (i.e., the hyflex approach).
3. The DMC implemented a DIY system for faculty members to produce their own multimedia materials. The institution had acquired the necessary equipment to support this initiative. To maintain the desired technical standards for multimedia materials produced through the DIY system, faculty members received counselling and guidance to help them achieve the desired output quality. The DMC produced tutorial videos to serve as additional support for faculty members. These videos provided guidance on using videoconferencing software like Zoom and OBS to produce multimedia materials.

4.2.5. Comparative Analysis

Both UPOU and KNOU implemented comprehensive strategies to cope with the challenges of multimedia production during the pandemic, but their approaches varied significantly.

UPOU focused on capacity building by developing training programmes for faculty and staff, promoting open-source software, and creating instructional videos to enhance multimedia production skills. They also maximised the use of existing equipment and provided best-practice videos for DIY production, while outsourcing personnel with the relevant expertise in instructional design to meet the growing demand for multimedia materials. Additionally, UPOU converted training programmes into MOOCs, conducted numerous webinars on pandemic-related issues, and collaborated with other university offices to optimise resource distribution and production efficiency.

In contrast, KNOU emphasised empowering faculty through the provision of necessary equipment for DIY production and implementing a feedback system to ensure the production of high-quality multimedia materials. Faculty members were given access to equipment and received constructive feedback from experts at the DMC, which helped bridge the technical quality gap of the produced materials. KNOU also developed instructional videos on using videoconferencing software like Zoom and OBS, thus enabling the faculty to efficiently record their lectures. KNOU’s innovative approach also included Hyflex Multimedia Lectures, which offered students flexibility in attending classes through various platforms, and creating VOD content from real-time lectures for blended learning.

4.3. RQ 3: Lessons Learnt After Experiencing Multimedia Production During the Pandemic

4.3.1. UPOU

Participant A reflected on the experience of online learning, acknowledging that “despite [our] prior engagement in this mode of education for several years, the pandemic brought about a valuable and distinctive learning experience.” They recognised that the pandemic served as a catalyst for heightened awareness and appreciation of the advantages and effectiveness of multimedia materials in the teaching and learning process.

Furthermore, Participant A noted a significant realization among their faculty and staff members: They had “the capacity to create multimedia materials using existing equipment.” This observation emphasised that expensive equipment was not a prerequisite for producing high-quality multimedia materials. Participant A shared that the university's faculty and staff members have embraced the concept that “multimedia materials can be effectively utilized without relying solely on costly equipment.”

4.3.2. KNOU

Participant B explained that prior to the pandemic, the DMC managed all content production at the university. However, during the pandemic, professors became more involved in the production process and even introduced new types of content.

Participant B observed a significant shift in teaching methods during and after the pandemic; during the latter period, there was a greater emphasis on real-time interactive lectures. Previously, face-to-face classes were streamed to regional campuses through their network, but the level of interaction was limited. Participant B highlighted that VOD and offline classes primarily facilitated one-way interaction. To address this issue and enhance the learning experience, the institution introduced the hyflex approach, combining in-person and online learning elements. By leveraging videoconferencing software, professors could now conduct interactive lectures during which students could actively participate in real time. This approach has yielded positive feedback from the students, who expressed higher levels of satisfaction with the learning experience compared to that using previous methods. The incorporation of videoconferencing software has allowed for increased engagement and improved interactivity.

Based on their experiences before and during the pandemic, KNOU recognised that some students tended to be hesitant or shy when it came to direct interaction with professors in face-to-face settings. To foster effective student-professor interaction, the institution is now exploring a new type of multimedia: the metaverse. According to Participant B, the metaverse will serve as a virtual learning space aimed at creating a more comfortable and interactive environment for students to engage with their professors.

4.3.3. Comparative Analysis

During the pandemic, UPOU and KNOU learnt valuable lessons that significantly changed their respective multimedia production strategies. UPOU gained a deeper appreciation of the effectiveness of multimedia materials in teaching and learning. Participant A noted that the pandemic underscored the university's ability to produce high-quality multimedia content using existing, affordable equipment, dispelling the notion that expensive tools were necessary. This realisation fostered a broader acceptance among faculty and staff members that impactful educational materials could be created cost-effectively.

Conversely, KNOU experienced a shift in its content production process. Previously centralised under the DMC, multimedia production saw increased faculty involvement during the pandemic. Participant B highlighted a significant pedagogical shift towards real-time interactive lectures, which signifies a departure from the previous interactively limited face-to-face and one-way VOD classes. This evolution culminated in adopting the hyflex approach, which blends in-person and online learning, leading to

improved student engagement and satisfaction. Additionally, KNOU identified a need to address student hesitancy in direct interactions, prompting the exploration of the metaverse as a new multimedia tool.

5. Discussion

Given that the COVID-19 pandemic is no longer an ongoing crisis, this section focuses on identifying best practices for multimedia production in the new normal and during times of global disruption.

5.1. Impact of COVID-19 on Multimedia Production

Multimedia content production is inherently collaborative, making mobility a crucial factor in the process. However, during significant disruptions such as the COVID-19 pandemic, multimedia production teams must adapt to changing restrictions. Moreover, global disruptions may also affect access to technology and studio space. Limited access to technology, recording studios, and even the services of professional video editors, as experienced too by the Spanish participants in the study by Boté-Vericad (2019), can affect the quality of the produced materials. One cited reason is that the professors' homes are not suitable for developing video materials. Furthermore, a paradigm shift may occur, as seen in the challenges experienced by educators/developers in creating educational videos. Similar to the experience of KNOU and UPOU, Boté-Vericad (2019) also found that professors initially felt challenged about having to produce educational videos, and not all of them were willing or capable of doing so. The learning curve in producing DIY videos may be steep for some, especially if the faculty member in question is not used to the process (Boté-Vericad, 2019).

Notably, a global disruption in education may affect students' perspectives on their learning experiences and resources. KNOU, in particular, has observed a shift in students' behaviours; they have moved from passivity to greater interactivity. This is similar to findings by Liu et al. (2020) in their study involving students in China. This behavioural shift is a significant consideration when designing and developing multimedia materials.

Lastly, global disruptions such as COVID-19 may lead to increased workload for developers, as experienced at UPOU, disrupting their pre-pandemic routines. Boté-Vericad (2019) also found similar sentiments among research participants, who were professors at an institution that does not operate in distance higher education.

5.2. Innovations and Strategies for Multimedia Production During Disruptions

The DIY approach, which has been practised even before COVID-19, is a viable option for multimedia production during such disruptions. Both UPOU and KNOU utilised this approach during the pandemic. This approach was also used at the university studied by Boté-Vericad (2019). Moreover, faculty members have deemed the DIY video production studio Video Maker Space a valuable tool (Coffman et al., 2023).

In light of a growing DIY trend, it is thus essential to implement capacity-building programmes that can empower faculty members and producers to create multimedia materials independently. Both KNOU and UPOU have adopted this strategy. UPOU conducted webinars and training sessions, and developed MOOCs to enhance the skills of their faculty, staff, and other stakeholders. They also developed tutorials and best-practice videos to provide support in the DIY process. Similarly, Coffman et al. (2023) created instructional guides for utilising DIY studios as part of their user-training approach. Meanwhile, KNOU established a feedback system to enhance the quality of their produced materials. This highlights the need to provide training to faculty members for video creation, a point that was also noted by Boté-Vericad (2019). Furthermore, providing necessary equipment to developers, including faculty members, is a crucial aspect of capacity building, which again was emphasised by Boté-Vericad (2019) as well.

Both universities began using streaming events during the pandemic to create learning materials. Providing learning resources in a VOD format allows students to learn at their own pace and convenience, thus offering them greater flexibility. According to Liu et al. (2020), "[l]ive online classes are popular with young people" (p. 196). Additionally, Gelisan et al. (2024) found that students consider webinars a good alternative when in-person interaction is not possible. Therefore, it is important for multimedia developers to learn how to conduct live webinars using tools such as Zoom and OBS.

Finally, before the pandemic, both UPOU and KNOU used a collaborative approach in multimedia production, and they found it helpful during the pandemic as well. This is supported by studies related to multimedia production during the pandemic (e.g., Boté-Vericad, 2019; Marzi, 2023) and the DIY approach to multimedia production (e.g., Coffman et al., 2023). Marzi (2023), for instance, developed a participatory video methodology in their research during the pandemic, which they found to be effective in building technical skills and offering control of the filming and editing process to the people involved in the production.

6. Conclusion

It is worth noting that despite facing different restrictions during the pandemic, both KNOU and UPOU showcased valuable innovations and strategies in multimedia production. These experiences offer important insights for practitioners and the multimedia industry as a whole. The lessons learnt by the two universities can provide educational multimedia producers, educators, and instructional designers with useful insights to navigate production during challenging times, especially during global disruptions. One notable lesson learnt is the heightened awareness and appreciation for the effectiveness of multimedia materials in education. The pandemic thus acted as a catalyst, emphasising the importance of adapting to disruptions and leveraging multimedia for teaching and learning. Furthermore, both institutions discovered the capabilities of their faculty and staff in multimedia production, challenging the notion that expensive equipment is necessary for high-quality content creation. These insights and practices inform future strategies at KNOU and UPOU and offer valuable guidance for practitioners and the multimedia industry as a whole in navigating challenges and embracing innovation. Finally, it can be seen that the two universities demonstrated resilience, enabling them to navigate global disruptions. Resilience involves the capacity to absorb shocks, adapt to changing conditions, and continue to function effectively (Walker et al., 2004). In the context of multimedia production, resilience encompasses the ability to maintain the quality and continuity of educational content despite external challenges.

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