

Faculty Members' Perceptions Towards Online Learning at Mid-West University During Covid-19 Pandemic

Dr. Sushil Kumar Shahi

Assistant Prof., MU School of Management (MUSOM)

E-mail: shahidrsusil@gmail.com

Abstract

This study was conducted to analyze Mid-West University faculty members' perceptions towards online learning activities initiated by the university during COVID-19 Pandemic. The objective of this research was to explain faculty perceptions, experiences, and challenges while creating an online learning environment in the Mid-West University, Nepal. The phenomenological research design was used with the focus on a qualitative research approach. Using a purposive sampling, 10 faculty members were considered for a written interview as the respondents. Analysis of the data collected through the interviews reveals both the encouraging and the painful experiences on the side of the faculty members when conducting the online classes. The finding of the study is that MU was able to create a success story of online teaching-learning activities during the COVID-19 Pandemic with the due responsibility to work hard in the future for promotion of an online teaching-learning platform.

Keywords: pandemic, perceptions, faculty, elearning, online platform.

1. Introduction

COVID-19 Pandemic opened a door to a new digital learning environment at the Mid-West University, Nepal. After unexpected spread of COVID-19 MU launched its online platform to minimize the challenges due to being locked down. Immediately, MU began to support university institutes, faculty, and students for the use of LMS, and zoom classes. Also, MU conducted the training programs on how to run an online platform for learning activities. This initiation helped the university to be on the correct track for regular academic works. As other higher education institutes across the country, MU also went through many problems such as lack of digital skills on the side of faculty and students, poor internet services, the electricity cut off and lack of willingness among its key stakeholders; faculty, staff, officials, and students. Yet, it is necessary to review what challenges the higher education institutes faced during COVID-19 Pandemic and how they overcame the challenges linking their experiences with the COVID-19 experiences of the Mid-West University.

The digital platform has come to be an alternative way to the traditional face-to-face teaching–learning since the outbreak of COVID-19 Pandemic in Wuhan City, Hubei Province in China, by the end of 2019. During the COVID-19 Pandemic, a nation wide lockdown forced all higher education institutions in Nepal to remain closed with an increasing pressure for e-learning. Also, the whole world, as Adedoyin, O. B., & Soykan, E. (2020), argued that the academic institutes across the world moved on to virtual teaching-learning making it easy for the both teachers and students to work out normally. This new culture of teaching-learning entirely changed teachers' perceptions towards pedagogy, classroom interaction, teaching time, and advising students as Adnan, M. said (2020). It introduced teachers to the flexible teaching-learning environment, a controlled teaching environment, better communication, and active involvement of students in projects (Coman et al., 2020). It also led teachers to face challenges such as lacking digital skills, poor incentives, the support for training, data, equipment, limited technology, decreased motivation, delayed response from students, and less effective connectivity.

Internet-based education practice got an increasing emphasis in Nepal after the entire world accepted and appreciated e-learning as a new culture of education. As all universities started e-learning activities during the lockdown with their limited e-learning resources and practices, Mid-West University, located in a remote part of Nepal, moved on to an online class within two weeks after the nationwide lockdown. Mid-West University did not have any e-learning system prior to the COVID-19 pandemic. No teachers or students were familiar with e-learning practice. University did not have any IT unit and cell to conduct training and any other activities related to an online education. This abrupt shift to an online education created many opportunities and challenges for university officials, teachers, and students. Realizing e-learning is only the alternative, University made decision to welcome and practice online teaching-learning.

Mid-West University has five central campuses, ten constituent campuses, two schools, and one affiliated college which accepted an online platform to maintain academic calendar. Of course, all these institutes faced many challenges such as some teachers' and students' resistance, faculty lacking digital knowledge and skills, and lacking tools and connectivity. Analyzing all these sudden realities, using a qualitative phenomenological approach, it was a need of the time to explain the Mid-West University faculty members' perceptions towards their use of online teaching-learning during the COVID-19 pandemic focusing on how they started online, what opportunities and challenges they faced, what support, technological devices and tools they used, what learning they got, and what type of success they got in terms of assessment and examinations.

This paper explains what an online methods and activities MU faculty members carried out, what challenges they got in terms of conducting online teaching-learning, and what new ways could be created for more improved digital platform for academic practice.

2. Literature Review

The study on faculty and student's perceptions towards online teaching-learning during COVID-19 pandemic has been carried out across the globe to examine how higher education was managed during and after COVID. The different studies and surveys have presented different views and findings related to the online platform in the context of the COVID-19. The studies and surveys focus on how the students viewed and experienced an online mode. An online teaching-learning (Coman et al., 2020) has been the alternative to traditional face-to-face mode to maintain teaching-learning activities during the COVID-19 Pandemic. An online has been the exclusive way of making students involved in the continuous learning process. This move to an online education created change in both teachers and students' ways of thinking regarding educational

activities. The pandemic gave an opportunity to many universities to introduce their faculty members and students to the practices of digital platform for the learning environment. The majority of the students (Khan et al., 2020) have found e-learning a more constructive and productive process to enhance their social media skills and overcome challenges created by the pandemic. Technology which was totally impossible and out of reach has become part of the faculty members and students' daily life. The study shows how an online has helped educational sectors during a pandemic to free faculty members and students from the grip of the pandemic and keep them busy as usual.

The ICT-based teaching-learning (Bordoloi, 2021) has entirely transformed the teaching pedagogy, introducing a google class, the zoom, LMS, e-class, and teams. Such a change has already provided an equal access to education with equity, and justice, ensuring timely delivery of the content, and engaging and carefully planned pedagogy with the support of the online resources. Dhawan, S. (2020) argued that the blended learning has emerged as an effective way of teaching-learning modality. Hasan (2020) conducted a qualitative survey on 408 students to explore and describe how students see a change in education. The finding of the survey reveals students found an online as the potential tools to support their learning activities.

In Chines Connect, Kang Ma et al. (2021) an online transition created both challenges and opportunities for the teachers and students. An online education was there before the pandemic and after the pandemic an online led teachers and students to learn how to use the online platforms. It also forced teachers to work extra to prepare well. It became the best tool to save students from isolation during the crisis. The study shows that Chinese teachers felt satisfied with the new online teaching-learning modality.

In the context of medical education, Priyani et al. (2020) argued that a move to an online learning generated pressure upon both the medical teachers and students. It opened the way to the virtual learning and pedagogy. It created a flexible teaching-learning modality. As a challenge, it forced them to be more responsible and self-regulated. The World Bank also conducted a survey on COVID-19's impact on South Asian Education (COVID-19 Response 2020) and reported a move to an online has excluded marginalized groups from education during the pandemic. Many low-income students may drop out and deprive of education.

Mishra (2020) argues an online teaching-learning has introduced a modern pedagogy introducing the digital platforms such as virtual seminars, webinars, conferences, posting, and podcast. Moreover, an online communication entirely opens a new way to a wider range of collaboration and changes the education system, forcing the government to prepare new education policies. Noor (2020) reported through a survey of an online practice in Malayis and Pakitstan that the government is to develop the new policies and invest in the management of digital infrastructure and training to modernize the education system. The pandemic gave the opportunity to develop a new education policy for creative and constructive modes of education. Research carried on the issue of how students perceived has shown that the negative effect (**Qtd Carsten Kronborg Bak & Schulin,**) Research shows that flexibility is an integral part of an online teaching. Flexibility includes an access to the teaching materials in the easy way, and students can visit the materials as they desire. An online teaching provides the various learning styles and the content to promote student's opportunity for resulted-oriented learning (McGarry et al. 2015; Truong 2016; Khaddage et al., 2015).

The research concludes that only well-planned teaching learning to be carried out in a certain way can create effect. The use of digital technology is not entire task for outputs. An effective online teaching guided by the plan can replace traditional classroom learning (Means et al. 2013; Khaddage et al., 2015). Studies indicate that the traditional teaching is not successful in terms of transferring from teachers to students. Teachers have to use the different methods and drills to make positive effect on students. In the same way,

using the digital technology cannot just create effect on students, rather, different methods and ways are to be applied to make an online teaching effective (Rambøll 2016).

In UK, a study was carried out to examine undergraduate psychology student's academic experiences during COVID-19 lockdown and the study has presented the data that only students who were capable of controlling themselves and were familiar with digital skills took an active participation in their learning (Limniou et al., 2021). The study also has presented that faculty should use more flexible way of delivery for promotion of students' critical thinking (Limniou et al., 2021). The point is that self-regulation is the good way to improve student's learning attitude. It leads them to explore the different ways to enhance their thinking instead of waiting for teachers. A self-regulated learning motivates students for creating relevant learning environment for themselves (Zimmerman and Kitsantas, 2014).

The study came up with the conclusion that students' attitudes are directly related with students' learning process. If they are positive they experience positive outcomes, if they are negative they experience negative outputs (Parpala et al. 2010, 2021; Utama et al., 2020; Richardson and Price 2003).

Russian researchers also have come to an understanding that a shift to the online mode from the physical class made both faculty and students aware of the digital concepts and skills. This transition enhanced the development of the digital infrastructure of universities, digital skills in faculty and students. The new digital platform paved the way for use of digital tools, group learning qualities, and new learning environment by making them familiar with the use of synchronous and asynchronous formats (Akhmetova, Svetlana, Larisa Nevskaya, and Irena Esqulova, 2021). Review shows that digital platform became the integral part of university education across the globe as the pandemic forced the entire world to stay lockdown. Online platform initiated by higher education institutes became an instrumental in promoting the digital literacy for all institutes in the world during COVID, making faculty members being familiar with technology concepts and skills.

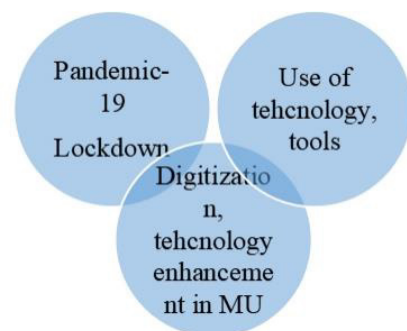
This study examines how a shift from on campus to an online learning affected Mid-West University and how the university handled the situation. The study explains faculty members' perceptions towards attempts made by the university for the online teaching-learning initiatives, the major challenges faced by faculty members, mostly used a digital device, learning and a success with the faculty members, evaluation status, and recommendations made by faculty members.

3. Conceptual Framework:

This study applies phenomenology as a research design as it helps identifying variables. The following chart shows the picture of conceptual framework.

4. Research Gap

The literature review shows the studies and surveys conducted to explore students and faculty members' perceptions towards online teaching-learning during the COVID-19 pandemic have focused on students' perceptions more than faculty members' experience and perceptions towards a move to online learning. But studies did not reveal faculty members' perceptions in the context



of Nepal. As a result, it is necessary to carry out the study on faculty members' perceptions towards an online learning in Mid-West University to fulfill the gap.

5. Objectives of the Study

1. To examine the faculty perceptions regarding the use of online teaching-learning mode.
2. To explain faculty experiences relating to the sudden shift from conventional practice to e-learning practice.
3. To list the prospectus and challenges of providing an online learning in the less developed country like Nepal.
4. To propose the way forward to be taken for providing quality online teaching-learning models in the Post- COVID pandemic situation.

6. Research Questions

1. What is the perception of the faculties about the way the university managed to provide education in the context of online teaching-learning?
2. What are the major challenges faced by the university faculties?
3. What are the learning and successes of an online teaching-learning practice?
4. How evaluation system was carried out?
5. What technology devices did they use and what impact an online had on students?
6. What would faculty members suggest for an improved e-teaching-learning practice?

7. Methodology

In this study, a qualitative research approach based on phenomenological design was employed as it allows researchers to identify and understand the essence of individual experiences through direct dealing with lived experiences in depth. As a method, it (Creswell, 2009) involves a procedure including the study of a small number of individuals' lived experiences through extensive and prolonged engagement to develop patterns and interpret meanings of the patterns of lived experiences. This design does not allow the researcher to give the researcher's understanding, rather, it reveals participants' experiences.

7.1 Sample and Sampling Techniques

A purposive sampling method was used for this study to collect relevant information from the faculty members with lived experiences and information to answer the research questions. The matter of inclusion and exclusion criteria were taken into an account to include only the faculty members involved in the online teaching-learning practice. Faculty members who were not serious to accept an online learning were excluded from the sample. Only the 10 faculty members were selected, and communicated by the researcher.

7.2 Data Collection Instrument

The semi-structured written interview was employed to carry out this study. This form of interview, as Bryman argues (2016), is a useful tool to ask individual's perceptions, beliefs, attitudes and experiences. It includes more and less structured questions with the aim of getting specific information from respondents. It is a more flexible way of conducting interviews for information collection. All interviews were held at the agreed-upon time according to the informant's consent. Each written interview session took 40 to 50 minutes and transcription of an interview was organized in accordance with major categories such as major initiative

aspects, the key challenges faced, support and capacity building, remarkable success and learning, experience with students, and re-imagining an online learning beyond COVID.

7.3 Methods of Data Analysis

Thematic qualitative method of data analysis was used in this study to describe the information given by participants in words. Information collected was categorized into different themes according to the nature of the data. The data generated from written interviews were analyzed with the process of transcription and coding of the informant's responses. Based on the research questions central themes were identified for the purpose of critical analysis.

8. Results

Twelve key themes were identified on the basis of research questions established and asked during the written interview of all participants as presented in Table 1.

Table 1

Results of the study

S.N.	Major Themes	Sub-themes	Questions
1.	Faculty members' perception towards attempts made by the university for online teaching-learning initiatives	Starting an online teaching-learning by the faculties during COVID-19 Pandemic	How did you start an online teaching-learning practice on the campus/school during the COVID-19 Pandemic?
		Capacity enhancement by the institute	In what ways did your university/institute manage technical man powers, connectivity, tools, and financial resources for online teaching-learning?
		Support provided by the institute	In what ways did and does your university/institute support you such as training, laptops, and finance for an online teaching-learning?
		Policy effectiveness	What is your opinion regarding the implementation process for online teaching strategies from your university administration?
2.	Major challenges faced by faculty members	Main challenges faced relating to an online teaching	What major issues and challenges have you faced with the online teaching practices?
3.	Mostly used digital devices	Use of the digital device	Which digital device was mostly used while accessing academic content services during the COVID-19 pandemic? Have you used the to-e-learning platform before the COVID-19 pandemic?
4.	Learning and success with the faculty members	Learning Outcomes	What were and are the examples of key learning relating to the online teaching-learning initiatives?
		Outcomes-based success	What are the key outcomes of your online-teaching practices?
		Experiences gained	How do you describe your interactions with students in online courses? Are you

			comfortable integrating new classroom technologies such as Teams, zoom, and google classroom into your classes? Did you complete the course per schedule?
		Participation condition experience	On average, how many students were/are in your class?
5	Evaluation Status	Evaluation process	How did you manage online assessments and examinations relating to the theory and practical aspects of the courses and tasks during the lockdown period?
6	Recommendation Made by faculty members	Way Forward	What types of teaching-learning transition (Plan) should be adopted for mobilizing the education system in Mid-West University without any disruption?

8.1 Starting online teaching-learning by faculties during COVID-19 Pandemic

MU faculty members expressed that an online teaching-learning practice was initiated with the use of Zoom, messenger, and google meet. One faculty member said, "I started an online teaching through Zoom with the help of one of my students who was good at IT." Another respondent said, "I started to take online classes by myself with the help of Zoom." Almost all faculty members did have the same way of conducting online classes during the pandemic.

8.2 Capacity Enhancement, Support, and Policy Effectiveness at Institutional Level

MU faculty members expressed that the university provided training, IT support through trained people and distributed the digital policy guidelines "Mid-West University **Digital, Virtual** and Alternative Teaching-Learning and Operating Systems **Policy** Guidelines 2020 to accelerate an online teaching-learning more effectively during the crisis.

One faculty member said, "in the beginning I as a teacher managed a Zoom ID for running the classes virtually, later the university provided me with training on how to teach students online".

Another faculty said, "The university organized a Tow-Day Training for the faculties, they were provided with pass codes, and guidelines for teaching-learning."

The faculty members argued that the university did not provide laptops and technology devices. Apart Mid-West University School of Management (MUSOM) faculty members, faculty members of other MU institutes agreed that the university did not give the device to each faculty. But the university released a certain amount of budget to each institute for the IT focal person and IT lab management.

Regarding policy effectiveness, the university faculty members agreed the university prepared, approved, and made all stakeholders aware of the digital policy for the conduction of an online teaching-learning.

8.3 Major Challenges Faced by Faculty Members

MU faculty members went through the different challenges such as load shedding, poor internet connectivity, student irregularity, lack of effective technical support, and lack of devices to teach numerical courses. The faculty argued that students faced the problem of understating higher mathematical problems due to lack of the technology devices. One faculty said, "faculty members lacked knowledge and skills for proper conduction of the online classes." Another faculty expressed that students and faculty were not psychologically prepared to handle the situation smoothly.

8.4 Mostly Used Digital Devices

MU faculty members used Zoom and LMS to carry out the online classes. They used laptops, mobiles, Google, and Facebook Messenger. One faculty said, Zoom, LMS, and MS Teams were frequently used to manage the online teaching-learning.

Another faculty said, "I have used an e-learning platform before COVID and used a laptop for slides presentation through mobile also." Another faculty said that a magnetic board was also used in MS teams.

8.5 Learning Outcomes, Success, Experiences, and Students' Participation

Learning Outcomes

The key outcomes of the online teaching-learning were, as faculty members said, it helps MU keep academic practices as normal, no academic gaps, faculties and students got an opportunity to be familiar with technology, regular assessments for evaluation, and production of digital policy. It also helps stakeholders come together for collective action to keep MU academic activities on the track.

Success and Experiences

Main success was development of an alternative mode of teaching-learning. Faculty members agreed that they gained wonderful experiences moving between fear and excitement relating to the new approach to the alternative mode. One respondents said they made students interactive as far as possible.

Student Participation

Looking at an overall record of the university shows that students' participation remained poor in the online classes due to many reasons. Respondents of the interview said, 50 to 80 % students participated in the online teaching-learning.

8.6 Evaluation of An Online Teaching-Learning

An open answer is that the faculty members and students focused on theory classes. An online assessment and evaluation became the hard job for all the faculty members of the university. All faculty members said that an online evaluation was really difficult. One faculty member said, "I used an email to send and receive assignments. Four faculty did not make any response to this question. University managed semester-end exam in a scientific way.

8.7 Way Forward

All faculty members openly recommended that the hybrid mode that encompasses both an online and an offline is the best way of promoting MU e-learning environment in the future. University also aims at launching ERPS to make this activity come true. One faculty said, "I think university should include the blended mode of teaching-learning in its academic calendar. Frequent capacity training, technical support and collaboration with local, national, and global IT friendly stakeholders should be developed.

9. Discussion

Observing the faculty members' written responses to the questions the study shows that the MU faculty members found that the MU digital initiative was a creative way to handle academic activities during the pandemic. As study carried out by Coman et al. (2020) offers the finding that online teaching-learning has been the alternative to traditional face-to-face mode to maintain teaching-learning activities, the Mid-West University also enhanced an online teaching learning as an alternative to its face to face learning environment.

At the same time, as Priyani (2020) argued move to online generated pressure upon both medical teachers and students, MU faculty, students and staff experienced panic in the beginning.

Faculty members mentioned that it was very difficult to get started without digital literacy, skills, and experiences. The university just motivated them to go ahead with the limited resources. All respondents agreed they were blank regarding the online mode of teaching-learning. Some of them started with their mobile and laptops. Soon university provided them with Zoom IDs and conducted training on how to conduct the online classes. All respondents expressed that the university supported each MU HEIs to enhance IT by providing digital policy.

Study carried out by many researchers show that there was a link between students' attitude and learning success. For instance, if they have positive attitude they get positive outcomes, if they have negative attitude they experience negative effect (Parpala et al. 2010, 2021; Utama et al. 2020; Richardson and Price 2003). MU also got the same experience as students with positive attitude got good result and students having negative attitude got failure in their learning. This also happened in relation to faculty members' experiences.

Faculty members said they were not sure in the begging about an online mode. As the progress took slowly they made online mode that the part of their academic practices. The MU digital policy became a milestone in making the university technology friendly to overcome the crisis.

An Online mode became challenging in terms of class regularity, evaluation, and student participation. Moreover, teaching mathematics was very much top. Only the theory part was covered at large. This shows that MU's online mode of teaching-learning was partially successful.

Faculty members felt panicked due to the digital illiteracy, the lack of technology tools and devices, and poor student participation. University also made, as the faculty members said, good attempts to help faculty, students, and administration for making an online effective as much as possible. The digital policy, training, and financial support were the key supports to the faculty members to make them feel comfortable in the course of conducting an online teaching-learning.

Faculty members found the assignment and evaluation process a bit hard due to a lack of technology tools and literacy. The university managed semester-end exams via E-mail and LMS. Student participation was 50 to 80% which was really worth noticing. Despite the challenges, an online teaching-learning of MU got a success story in Nepal.

10. Suggestions and Recommendations

Faculty members argued that MU should enhance an online teaching-learning. The hybrid mode will be forward-looking. MU is to conduct the digital literacy and training programs for making MU IT-friendly.

11. Conclusion

This study presents success story of MU from the perspective of MU faculty members. Faculty members expressed that an online initiative was new to them, but it helped them overcome the crisis created by the pandemic. MU digital policy and conduction of online via Zoom, email, and other technology tools were the key success activities. The training and financial support to each institute by MU was also motivating factor to make MU online teaching come true. MU handled its online mode very successfully. The way to the future

is for MU should improve its hybrid teaching-learning system. ERPS will be a major tool to enhance the MU digitization system.

12. Limitation

This study focuses only on the faculty members' attitudes, experiences, and suggestions towards MU online mode used during the pandemic. Only faculty members' perspective was taken into an observation. The result was that faculty members fully expressed satisfaction with the conduction of online teaching-learning during the pandemic.

References

- Adedoyin, O. B., & Soykan, E. (2020). COVID-19 pandemic and online learning: the challenges and opportunities. *Interactive Learning Environments*, 1–13.
<https://doi.org/10.1080/10494820.2020.1813180>
- Adnan, M. (2020). Online learning amid the COVID-19 pandemic: Students perspectives. *Journal of Pedagogical Sociology and Psychology*, 1(2), 45–51.
<https://doi.org/10.33902/jpsp.2020261309>
- Akhmetova, Svetlana, Larisa Nevskaya, and Irena Esqulova. (2021). University studies after the pandemic. Challenges and solutions
file:///C:/Users/HP/Downloads/shsconf_mtde2021_03015.pdf.
- Aristovnik, Aleksander; Keržič, Damijana; Ravšelj, Dejan; Tomažević, Nina; Umek, Lan. (2020) Impacts of the COVID-19 Pandemic on Life of Higher Education Students: A Global Perspective. *Sustainability*; 12, 8438. [DOI
<https://dx.doi.org/10.3390/su12208438>]
- Bak, Carsten Kronborg; Schulin, Simon (2022). *Rekruttering og Fastholdelse af UC Syd Studerende [Recruitment and Retention of UC Syd Students]*; University College Southern Denmark:Odense.
- Bak, Carsten Kronborg, Schulin, Simon. (2023). University College Students' Experiences with Online Teaching One Year after COVID-19 Lockdown in Spring 2020. *Social Sciences; Basel Vol. 12, Iss. 3, (2023): 156. DOI:10.3390/socsci12030156.*
- Baticulon, Ronnie E.; Sy, Jinno Jenkin; Alberto, Nicole Rose I.; Baron, Maria Beatriz C.; Mabulay, Robert Earl C.; Rizada, Lloyd Gabriel T.; Tiu, Christl Jan S.; Clarion, Charlie A.; Reyes, John Carlo B. (2021). Barriers to Online Learning in the Time of COVID 19: A National Survey of Medical Students in the Philippines. *Medical Science Educator*; 31, pp. 615-26. [DOI: <https://dx.doi.org/10.1007/s40670-021-01231z>]
- Bdair, Izzeddin A. (2021). Nursing students' and faculty members' perspectives about online Learning during COVID-19 pandemic: A qualitative study. *Teaching and Learning in Nursing*; 2021; 16, pp. 220-26. [DOI: <https://dx.doi.org/10.1016/j.teln.2021.02.008>]
- Bordoloi, R., Das, P., & Das K. (2021). Perception towards online/blended learning at the time of Covid-19 pandemic: an academic analysis in the Indian context. *Asian Association of Open Universities Journal*.
- Bryman, Alan, et al. (2021). *Social Research Methods*. Oxford Up.

- Coman, Claude, et all. Online Teaching and Learning in Higher Education during the Coronavirus Pandemic: Students' Perspective, 1 (24), <https://www.mdpi.com/2071-1050/12/24/10367>
- Creswell, John W. and J. David Creswell. (2017). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th Edition.
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018>
- Huckins, Jeremy F.; Silva, Alex W. da; Wang, Weichen; Hedlund, Elin; Rogers, Courtney; Nepal, Subigya K.; Wu, Jialing; Obuchi, Mikio; Murphy, Eilis I.; Meyer, Meghan L. et al. Mental Health and Behavior of College Students During the Early Phases of the COVID-19 Pandemic: Longitudinal Smartphone and Ecological Momentary Assessment Study. *Journal of Medical*
- Georgsen, Marianne; Qvortrup, Ane. (2020). Erfaringer og Oplevelser med Onlineundervisning på 9 Videregående Uddannelsesinstitutioner i Foråret. 2021; Available online: <https://laeremiddel.dk/viden-og-vaerktoejer/rapporter/erfaringer-og-oplevelser-med-online-undervising/> (accessed on 29 December 2022). *Internet Research*; 2020; 22, e20185. [DOI: <https://dx.doi.org/10.2196/20185>]
- Kang, Ma et al. (2021). Online teaching self-efficacy during COVID-19: Changes, its associated factors and moderators, Springer Link, <https://link.springer.com/article/10.1007/s10639-021-10486-3>
- Kaparonaki, Chrysi K.; Patsali, Mikaela E.; Mousa, Danai-Priskila V.; Papadopoulou, Eleni V. K.; Papadopoulou, Konstantina K. K.; Fountoulakis, Konstantinos N. University Students' Mental Health amidst the COVID-19 Quarantine in Greece. *Psychiatry Research*; 2020; 290, 113111. [DOI: <https://dx.doi.org/10.1016/j.psychres.2020.113111>]
- Khaddage, Ferial; Christensen, Rhonda; Lai, Wing; Knezek, Gerald; Norris, Cathie; Soloway, Elliot. (2015). A model driven framework to address challenges in a mobile learning environment. *Education and Information Technologies*; 20, pp. 625-40. [DOI: <https://dx.doi.org/10.1007/s10639-015-9400-x>]
- Khan, Mohammed Arshad, et all. (2020). Students' Perception towards E-Learning during COVID-19 Pandemic in India: An Empirical Study, *Sustainability*, 13, (1), <https://www.mdpi.com/2071-1050/13/1/57>
- Limniou, Maria; Varga-Atkins, Tunde; Hands, Caroline; Elshamaa, Marie. (2021). Learning, Student Digital Capabilities and Academic Performance over the COVID-19 Pandemic. *Education Sciences*; 11, 361. [DOI: <https://dx.doi.org/10.3390/educsci11070361>]
- Lovrić, Robert; Farčić, Nikolina; Mikšić, Štefica; Včev, Aleksandar. (2020). Studying During the COVID 19 Pandemic: A Qualitative Inductive Content Analysis of Nursing Students' Perceptions and Experiences. *Education Sciences*; 10, 188. [DOI: <https://dx.doi.org/10.3390/educsci10070188>]

- McGarry, Ben J.; Theobald, Karen; Lewis, Peter Andrew; Coyer, Fiona. (2015). Flexible learning Design in curriculum delivery promotes student engagement and develops Metacognitive learners: An integrated review. *Nurse Education Today*; 35, pp. 966-73. [DOI: <https://dx.doi.org/10.1016/j.nedt.2015.06.009>] [PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/26169287>]
- Mishra, Lokanath, et al. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *The International Journal of Educational Research Open (IJEDRO)*, <https://www.sciencedirect.com/science/article/pii/S2666374020300121>
- Noor, Shaista, et al., (2020). Online Teaching Practices During the COVID-19 Pandemic, Educational Process: International Journal, 1(3), <https://files.eric.ed.gov/fulltext/EJ1280329.pdf>
- Parpala, Anna; Katajavuori, Nina; Haarala-Muhonen, Anne; Asikainen, Henna. (2021). How Did Students with Different Learning Profiles Experience “Normal” and Online Teaching Situation during COVID-19 Spring? *Social Sciences*; 10, 337. [DOI: <https://dx.doi.org/10.3390/socsci10090337>]
- Parpala, Anna; Lindblom-Ylänne, Sari; Komulainen, Erkki; Litmanen. (2010), Topi; Hirsto, Laura. Students’ Approaches to Learning and Their Experiences of the Teaching-Learning Environment in Different Disciplines. *The British Journal of Educational Psychology*; 80, pp. 269-82. [DOI: <https://dx.doi.org/10.1348/000709909X476946>]
- Petillion, Riley J.; McNeil, W. Stephen. (2020). Student Experiences of Emergency Remote Teaching: Impacts of Instructor Practice on Student Learning, Engagement, and Well-Being. *Journal of Chemical Education*; 97, pp. 2486-93. [DOI: <https://dx.doi.org/10.1021/acs.jchemed.0c00733>]
- Rambøll. Kortlægning. (2016). E-læring på videregående uddannelser [Mapping. E-learning in Higher Education]. Copenhagen. Available online: <https://ufm.dk/publikationer/2017/kortlaegning-af-e-laering-ved-de-videregaende-uddannelser> (accessed on 11 January 2023).
- Shisley, Steven. (2020). Emergency Remote Learning Compared to Online Learning. *Learning Solutions Magazine*; 2020; Available online: <https://learningsolutionsmag.com/articles/emergency-remote-learning-compared-to-online-learning> (accessed on 11 January 2023).
- World Bank Group. (2020). Year in Review: The impact of COVID-19 in 12 charts, <https://blogs.worldbank.org/voices/2020-year-review-impact-covid-19-12-charts>
- Zimmerman, Barry J.; Kitsantas, Anastasia. (2014). Comparing Students’ Self-Discipline and Self-Regulation Measures and Their Prediction of Academic Achievement. *Contemporary Educational Psychology*; 39, pp. 145-55. [DOI: <https://dx.doi.org/10.1016/j.cedpsych.2014.03.004>]
- Zimmermann, Martha; Bledsoe, Casandra; Papa, Anthony. (2020). The Impact of the COVID-19 Pandemic on College Student Mental Health: A Longitudinal Examination of Risk and Protective Factors. *Psychiatry Research*; 305, 114254. [DOI: <https://dx.doi.org/10.1016/j.psychres.2021.114254>]