

Assessment of the College Students' Perceptions about the Online Learning Transformation during COVID-19 Pandemic at College of Professional Advancement–Atlanta Campus of Mercer University

Awatef A. Ben Ramadan and Rui Gong

Mercer University USA

Abstract: *Moving to the online and blended education delivery during any emergency crisis needs to be creative, flexible, and unique to that particular crisis. The students' self-motivation and active engagement decreased after the sudden move to the emergency online learning. The current study explored and assessed the College of Professional Advancement - Atlanta Campus (COPA-Atlanta Campus) students' perceptions and attitudes about the sudden transfer to the total online learning environment due to the COVID-19 pandemic. The current study was a cross-sectional descriptive study targeted all undergraduate and undergraduate students of Atlanta College of Professional Advancement (COPA), using an online self-administered survey disseminated through the students' Mercer emails from September 2021 to December 2022. We concluded that the students' opinions, attitudes, and perceptions are critical for meeting their expectations, attaining their courses' learning objectives, and serving them smoothly and efficiently throughout COVID-19's emergency online learning. We recommended that the higher education institutions should understand and explore the diverse motives behind the students' academic decisions during the pandemic and need to modify and give valuable insight into the organizations' financial policies.*

Key Words: College Students, COVID-19, Online Learning Transformation.

INTRODUCTION

Synchronous and asynchronous online learning environments have been vital in most primary and higher education sectors nationally and internationally. Online delivery options have made education very convenient and accessible to a wide range of the most learning seekers. Before the pandemic, the face-to-face teaching mode was the most prominent used and acquired way of teaching worldwide. A challenge that has omitted to seek and implement the online teaching methods was the teachers' unfamiliarity and lack of adequate online resources. Difficulties of handling the offline course materials by the teachers and the learners have been another challenge. The internet inaccessibility by the learners has also been considered an additional struggle. (Ali, 2020; Daniel, 2020; Hodges et al., 2020; Murphy, 2020).

In the United States, the President enacted the national social long-distance protocol in 2020 (State of Florida, 2020). As a result of the pandemic, most higher education entities have moved to deliver their courses online. However, students have expressed stress due to the sudden change to online learning and experienced difficulties completing the online courses' work. Most published articles agreed that online learning is a powerful teaching tool. It was very effective and efficient in delivering the learning material and keeping different degrees and learning levels running safely and successfully during the pandemic. A study agreed that online learning was highly accepted and required a well-established and comprehensive strategy and interactive approaches and practices. The same study concluded that the instructors do not need to concentrate on delivering the material and increasing the knowledge. Still, also they need to ensure attaining the targeted students' skills and hands-on practices (Bączek, M. 2021). A dental school study found face-to-face learning better than online learning in instructor accessibility, student engagement, and fairness in examination (Chang, 2021).

Most of the after-pandemic literature found that the students were stressed because of the sudden and complete change in the teaching delivery mode during the pandemic, especially those students who were not familiar with the online learning environment or had a bad experience with this type of learning (Bączek, M. 2021; Chang, 2021). A study showed that the prevalence of mild to moderate psychological distress was more than 70% amongst the studied undergraduate students. The same study recommended several strategies to effectively introduce and process online learning in future crises (Saha et al., 2021).

Effective online learning requires time and effort to define and build. Regularly, the educational entities consider each course's curriculum and learning objectives before deciding if it is better to move the course to the online mode (Hodges et al., 2020). A study published in 2020 emphasized that students and faculty should not mix between the regular online learning mode and the emergency online learning (Aguilera-Hermida, 2020). Moving to the online and blended education delivery during any emergency crisis needs to be creative, flexible, and unique to that particular crisis. The students' self-motivation and active engagement decreased after the sudden move to the emergency online learning. The instructors should understand the students' responses and preferences so that the faculty will respond to them. The same study suggested studying the effect of the pandemic on students' learning chances and outcomes and exploring the challenges faculty and administrators have faced (Aguilera-Hermida, 2020). The emergent online phase negatively affected the students' attitude and beliefs of the importance and the effectiveness of the online learning process (Almomani et al., 2021). A study suggested adding more virtual learning activities to the emergent online courses to motivate undergraduate and community college students and enhance faculty-student interactions (Tang et al., 2021). Faculty should develop and apply high-impact student-centered assignments and team-based projects to improve hands-on practices and clinical skills (Baticulon, 2021; Muflih et al., 2021). In life and medical sciences, the students are pessimistic about gaining the required professional skills and fundamental proficient capabilities from the online instructional learning mode (Baticulon, 2021; Muflih et al., 2021). The students should be surveyed to assess if they are ready and able to efficiently and effectively use online material and tasks to access and gain high-quality professional skills and capabilities (Muflih et al., 2021).

The current literature has discovered student dissatisfaction from the online learning experience during the pandemic. A study found that distractions, pandemic-related anxiety, psychological distress, and difficulties in managing emergent online delivery were the most critical factors (Maqableh & Alia, 2021). Other challenges were discovered by the lack of inter-students

and faculty-student interaction and communication and inaccessible internet and learning resources (Almahasees et al., 2021; Muthuprasad et al., 2021). Different computer and online communication self-efficacy and learning motivation results have been discovered across different education levels and degrees. These results improved by increasing age and high-Grade Point Average (GPA) for the students (Rafique et al., 2021). Students admitted that they had gained good skills and knowledge in technology- and computer-related fields like informatics and computer science. Still, they also pointed out their dissatisfaction about the quality and the quantity of the given curriculum and faculty evaluation of their work (Almomani et al., 2021).

The current study explores and assesses the College of Professional Advancement - Atlanta Campus (COPA-Atlanta Campus) students' perceptions and attitudes about the sudden transfer to the total online learning environment due to the COVID-19 pandemic. COPA-Atlanta Campus is a part of Mercer University at Atlanta- Georgia.

The results of this study are expected to collect relevant and robust evidence on this massive and sudden transformation's influence on our students. The current study results could help our leaders and policymakers plan, tweak, and issue effective and efficient evidence-based policies and interventions that suit our students' preferences and expectations and help the students prepare and control similar crises in the future.

METHODS

The current study is a cross-sectional descriptive study targeted all undergraduate and undergraduate students of the College of Professional Advancement (COPA)/ Atlanta Campus. The primary investigator developed an online self-administered survey. The study tool was peer-reviewed by two COPA full professors and was approved by the Institutional Review Board (IRB) of Mercer University. Seven COPA students tested the instrument. The survey was refined, according to the peer-reviewers' recommendations and according to the testing process, before it was disseminated to all Atlanta Campus's COPA students. The study tool was composed of 54 structured questions to assess the students' perceptions and attitudes about the university's sudden transfer to the total online learning environment due to the COVID-19 pandemic. The first part of the survey included socio-demographic data. The rest of the survey questions on the emergent COVID-19-related university resources and interventions and explore the students' perceptions and attitudes about the different online learning settings and Mercer's online learning platforms. The survey was in Survey-Monkey format, and a link was created and disseminated to the participants.

The survey's link was disseminated to the students' university emails from September 2021 to December 2022. The study targeted the COPA students who are 18 years or older, of all races, all gender, and all nationalities. The investigators supplied the study participants with an informed consent, which explained the study's purpose, benefits, and measures to protect the students' information, privacy, and confidentiality. After each participant answered all the questions, they submitted the survey. The data retrieved from the online survey were analyzed using Microsoft Excel. We used Descriptive statistical measures, Cramer's V statistical measure, and the binary logistic linear regression model. to determine the correlation between the study's different variables. A p value of 0.01 or less was considered statistically significant. All p values of the Cramer's V we are interested in this paper are less than 0.01.

RESULTS

The participated students were 175, with a participation rate of approximately 15% of the total COPA students of fall 2021. Seven out of the 175 students started the survey but did not answer any questions. The survey questions disseminated during August, October, and November of the year 2022. The participated students were mostly urban-resident (47%), white (56%) females (87%) aged between 25 to 39 years old (53%). About 41% of the respondents were full-time workers, and 30% were part-time workers. Most of the participants have had a steady family income during the pandemic (80%). About 62% of the participants did not have dependents to take care of during the pandemic. About 77% of the respondents answered that they are very or somewhat worried about the economic influences of COVID-19 on them and their families. About 70% of the respondents worried about academic delays because of the pandemic. About 17% of the respondents did not have enough and sustain social support through the pandemic. Using Cramer's V statistical measure, as Table 1 shows, there was a correlation ($r = 0.5261$) between taking care of dependents (kids, ill parents or spouse) and the fear of the economic influences of the pandemic on the students and their families. There was a correlation ($r = 0.5664$) between the respondents' worriedness about the pandemic's economic influences and the anxiety of being behind academically due to the pandemic. There was a strong correlation ($r = 0.7101$) between the fear about the economic impact of the pandemic and the social support level the respondents have had during the pandemic. In addition, there was a strong correlation ($r = 0.7199$) between the anxiety from the academic delays and the social support level the respondents have had in the pandemic.

About 77% of the respondents had a previous online learning experience before the pandemic. The binary logistic linear regression model shows that online experience has a significantly high positive correlation with face-to-face learning mode ($p < 0.001$). The face-to-face learning mode was the first preferred learning mode for the students who had an online learning experience before the pandemic. The hybrid, online, and virtual learning modes did not correlate with the student's previous online experience ($p > 0.05$).

Using the binary logistic linear regression model without the intercept, we found out that dropping or postponing courses during the pandemic relates to gender, age group, race, and employment status ($p < 0.001$). Females and males are both affected, but males were more prone to drop or postpone their courses during the pandemic with correlation coefficients of $\beta = 0.9333$ and $\beta = 0.7862$, respectively. When we used the variable "Female" as the reference, the Odds Ratio (OR) was 1.158493, this OR is larger than one, so this shows that males have been more likely to leave school during the pandemic than females are. All age groups are correlated with dropping or postponing the courses amongst the respondents ($p < 0.001$), but the older than 60 years old and 18-24 years old groups are more affected with $\beta = 1.0000$ and $\beta = 0.8421$ respectively. The American Indian or Alaskan Native race and the mixed-race are strongly (significantly) correlated ($p < 0.001$) to dropping and postponing the courses during the pandemic with $\beta = 1.0000$ for both groups. The respondents who are retired ($\beta = 1.0000$) lost their jobs due to the pandemic ($\beta = 0.8571$), and the part-time employees ($\beta = 0.8491$) were more affected with dropping and postponing courses during the pandemic than the full-time job participants were ($\beta = 0.7747$).

The main reasons for dropping or postponing courses during the pandemic were "too many courses" with $r = 0.5712$ and "online-learning difficulties" with $r = 0.5679$.

Table 1

Correlation between the Social and Economic Variables of the Studied Students during the Pandemic

The Studied Variables	Respondents who take care of dependents	Worriedness about the economic influences of the pandemic on them and their families	Worriedness about the academic delays during the pandemic	Social support level during the pandemic
Respondents who take care of dependents	1.0000	0.5261**	0.5138**	0.5014**
Worriedness about the economic influences of the pandemic on them and their families	0.5261**	1.0000	0.5664**	0.7101**
Worriedness about the academic delays during the pandemic	0.5138**	0.5664**	1.0000	0.7199**
Social support level during the pandemic	0.5014**	0.7101**	0.7199**	1.0000

** p value less than 0.01

Thirty-four out of the 154 (22%) respondents canceled or postponed student travel plans (study abroad, Mercer on Mission, conference presentation, etc.) due to the pandemic. The current study shows a correlation ($r= 0.5884$) between the worriedness of COVID-19's effect on the academic outcomes and the capability of the respondents to endure similar public health crises in the future. The ways COVID-19 affected the students more them more ready to defend their academic achievements.

Most of the respondents admitted that they gained new and better intellectual and practice skills from the complete online transmission. However, they are still anxious about introducing new online learning platforms and modes ($r= 0.6647$).

In table 2, there are strong correlations between the respondents' belief that Mercer University's online learning system is effective and has been helpful during the pandemic and between all of these factors: 1. the satisfaction level with faculty communication and interaction during the current pandemic ($r= 0.6455$). 2. The accessibility to the university's COVID-19 related policies, protocols, and new practices from their colleges and departments ($r= 0.7223$). 3. The orientation and guidance levels on online learning platforms ($r= 0.7565$). 4. The satisfaction about how the college's move to continue teaching in such a difficult time ($r= 0.6155$). 5. At the beginning of the pandemic, the students had enough time, notifications, and resources to transfer to an online learning setting ($r= 0.6852$). 6. The university supplied its students with enough

support on using technology or innovative practices to meet course learning objectives during this pandemic ($r= 0.6145$). 7. The students' satisfaction with Mercer University Coronavirus Updates and FAQs page on the Mercer Homepage ($r= 0.6450$). 8. The students' satisfaction with the faculty and the online environment met the assigned course learning outcomes ($r= 0.6526$).

Table 2

Correlation between the Respondents' Belief about Mercer University's Online Learning System and Different University's Related Educational and Administrative Variables

The studied variables	1	2	3	4	5	6	7	8	9
1. Mercer University's online system of learning (for example: Canvas, Zoom) is effective and has been helpful	1.0000	0.6455	0.7223	0.7565	0.6155	0.6852	0.6145	0.6450	0.6526
2. You are satisfied with faculty communication and interaction during the current pandemic	0.6455	1.0000	0.7279	0.7648	0.7113	0.7036	0.6634	0.6971	0.7439
3. You have enough access to COVID-19 related policies, protocols, and new practices from your college to improve your understanding.	0.7223	0.7279	1.0000	0.7426	0.7033	0.6882	0.7881	0.8149	0.7052
4. I had adequate orientation and guidance on	0.7456	0.7648	0.7426	1.0000	0.7584	0.7708	0.7561	0.7793	0.7315

the use of online learning platforms before the moving to the online learning phase									
5. How do you evaluate the college's move to continue teaching and learning for students in such a difficult and very short time	0.6155	0.7113	0.7033	0.7584	1.0000	0.8125	0.7246	0.6411	0.6104
6. You agree that you had enough time, notifications, and resources to transfer to an online learning setting	0.6852	0.7036	0.6882	0.7708	0.8125	1.0000	0.7867	0.7245	0.6898
7. Mercer University has supplied its students with enough support on how to use technology or innovative practices to meet course learning objectives during this pandemic	0.6145	0.6634	0.7781	0.7561	0.7246	0.7867	1.0000	0.6975	0.6196
8. What is the degree of your satisfaction	0.6450	0.6971	0.8149	0.7793	0.6411	0.7245	0.6975	1.0000	0.6106

with Mercer University Coronavirus (COVID-19) Updates and FAQs page on the Mercer Homepage and its timeliness and relevance

9. Are you satisfied with the faculty and the online environment to meet course learning outcomes so far?	0.6526	0.7439	0.7052	0.7315	0.6104	0.6898	0.6196	0.6106	1.0000
---	--------	--------	--------	--------	--------	--------	--------	--------	--------

All *p* values less than 0.01 for the values less than 1

Using Mercer IT Helpdesk's resources during the current pandemic correlates with meeting the students' technology-related needs ($r = 0.7071$). Using Mercer's online library system during the current pandemic was associated with Mercer Library services' quality ($r = 0.7071$). Using Mercer's Online Writing Library (OWL) was correlated with the OWL services' quality and satisfaction of the respondents about OWL services ($r = 0.7071$). Mercer Information Technology (Mercer IT) helped students a lot when they needed help. At the same time, most students who used Mercer IT also used the online library system or online writing lab during the pandemic ($r = 0.7104$ and 0.7264 , respectively).

Table 3

The Association between the University's Electronic Educational and Administrative Resources, the Respondents' Satisfaction about these Electronic Services' Quality

The studied variables	1	2	3	4	5	6
1. You used the Mercer IT Helpdesk's resources during the current pandemic	1.0000	0.7071	0.7104	0.3008	0.7264	0.2311
2. The Mercer IT help desk meets your needs and answers all your technology-related problems.	0.7071	1.0000	0.1910	0.2747	0.2503	0.2644
3. You used the online library system during the current pandemic	0.7104	0.1910	1.0000	0.7071	0.7320	0.2324

4. The online library system services meet all your library needs and answers all related questions during this pandemic	0.3008	0.2747	0.7071	1.0000	0.3842	0.3019
5. You used the online writing lab during the current pandemic	0.7264	0.2503	0.7320	0.3842	1.0000	0.7071
6. The Online Writing Lab (OWL) has high quality resources and enough capacity to give timely and adequate responses during this pandemic	0.2311	0.2644	0.2324	0.3019	0.7071	1.0000

The p values of the results between 0.5 and 1 are less than 0.01

DISCUSSION

Most of the respondents had anxiety and worried about the pandemic's possible negative financial effect on them and their families. According to the study results, this finding is very explainable because about 60 % were responsible for dependents, kids or parents while studying. Our study was conducted in the second year of the pandemic, and most of the respondents had a steady family income during the pandemic. Still, the pandemic has added financial stressors and fear from falling in economic struggles amongst employed students. These findings also supported what other studies concluded where the researchers found that the worriedness and anxiety from the pandemic was positively correlated with the adverse economic effects on the students (Cao. Et al, 2020; Dangal & Bajracharya, 2020; Dhar et al., 2020; Irfan et al., 2021; Jones et al., 2021). The respondents who were responsible for family members were more worried about any change in their economic status than the single students, students living in parents' houses, and students who were taken care of by spouses.

Our respondents were worried about the adverse effect of the pandemic on their academic outcomes (Hossain, Ahmmed, Rahman, Sanam, Emran, & Mitra, 2021; Islam, Barna, Raihan, Khan, & Hossain, 2020; Cao. Et al, 2020; Dangal & Bajracharya, 2020; Dhar, Ayitney, & Sarkar, 2020). Our respondents were primarily middle-aged females who already had different life stressors and the pandemic impact. It is reasonable and understandable to worry about their academic progression as non-traditional adult learners. Various international and national educational organizations have supported the American efforts to reduce the direct impact of school closures and online-learning transformation on vulnerable and disadvantaged community groups (UNESCO, 2022). In the current literature, the social support factor has been controversial. Some studies reported that social support was not or marginally correlated with the COVID-related anxiety amongst college students (Biswas & Biswas, 2021; Cao. Et al, 2020; Dangal & Bajracharya, 2020). In comparison, other studies found that the perception of peers, family, and instructors could enhance academic resilience and success (Permatasari et al., 2021; Ye et al., 2020). Even though our sample mainly included non-traditional female learners who needed solid social support to succeed academically, a low percentage reported inadequate or interrupted social support during the pandemic.

The students who have previous online learning exposure and experience preferred the face-to-face learning mode to the hybrid, online, and virtual learning modes. Most of the respondents liked the traditional face-to-face interaction and favored being engaged in learning and intellectual activities in the actual class. Our students were middle-aged females who worked and had significant social and financial responsibilities. A study showed that this type of student is tough to cope with a sudden change to complete online learning (Ramos-Morcillo et al., 2020; Singh et al., 2021). These findings supported other studies' results where the students appreciated the online learning mode, but they did not consider it a substitute for face-to-face learning (Hattar et al., 2021). According to the current literature, the reasons behind the students' dissatisfaction about the sudden online learning transformation have been a distraction and reduced attention, COVID-related psychological stressors, technology problems, and improper management of some higher education institutions of the new online conversion (Alzamil, 2021; Chung, & Dass, 2020; Hussein et al., 2020; Maqableh & Alia, 2021). Most of these studies suggested that the teaching institutions should follow robust preparedness plans and strategies to eliminate the challenges and barriers of acceptance the online learning and to enhance further student retention and success in similar future emergencies (Chung, & Dass, 2020; Hussein et al., 2020; Maqableh & Alia, 2021). The current literature reported that the teaching quality would be affected after the transition to online instruction and the students' perception of the quality can affect their acceptance of the transition (Larmuseau, 2019). The same literature found that the students' perception of online teaching quality is strongly related to the instructor's availability and continuous guidance (Ives, 2021; Slaydon et al., 2020). The instructors can boost the online instruction's acceptance and quality by increasing the communication and guidance with their online students. However, some studies found that online and hybrid learning were very well perceived and as effective as face-to-face learning (Akuratiya & Meddage, 2020; Kusumawati, 2020).

The students who were significantly prone to drop or postpone courses during the pandemic were both genders (males and females), minority race (Alaskan Native and Mixed race), lower-income students (retired, losing jobs, and part-time employed students), less than 24 years old, and retired students. Even though both participating genders were vulnerable to dropping courses or delaying school, the study finds that males were more prone to drop classes or postpone school than females during the pandemic. This finding supports the current literature's results that female students demonstrated more coping with the pandemic's mental and social impact, got better more quickly, and sustained a healthier mental state than male students (Zainol & Salleh, 2021). A study performed in 1988 found that males were more negatively affected than females when it came to compliance with sudden social crises, which may result in rage and improper decision-making (Eisler, 1988).

There is a study showed that the financially struggling students experienced a reduction in their grades and earned credits during the pandemic than the better socio-economic peers (Rodríguez-Planas, 2021). Another study pointed that losing job and job insecurity affected the students' decisions to dropout or postpone courses, or prolong their studying time (Farcnik et al., 2021). In the current study, the main reasons for dropping or postponing courses were "too many courses" and "online learning environment's difficulties".

Our study discovered a positive correlation between the worriedness of COVID-19's effect on the academic outcomes and the capability of the respondents to endure similar public health crisis in the future. The study found that even the resilient and coping students still feel fear of being involved in a sudden online learning setting in the future. Our respondents were mostly middle-aged females who are adult learners, and they are representing our college's actual student

demographics. Our students are mostly non-traditional students chose to finish their studying or study a new major to change their whole career based on the job market's demand. Such students should be very responsible and ready to cope with sudden current or future emergencies to attain their already planned learning goals. To enhance students' resilience and to reduce students' anxiety and fear, a preparedness plan should be put in place to meet students' needs that will be detected from the current pandemic. This will limit the learning, social, and psychological difficulties that such crises could cause in the future. The colleges should re-examine the educational, financial, and technology policies and practices (Sarmiento et al., 2021).

The online university system was positively correlated with the following variables:

- The students' satisfaction with the instructors' communication and interaction.
- The accessibility to the university's Covid policies and related practices.
- The orientation and guidance through the online learning system.
- The students' satisfaction about the university's administrative and educational performance during the pandemic.
- Satisfaction with the university's media guidance and the university's support to use technology.

Even though some respondents were worried about the academic delay, financial problems, and being exposed to similar online learning transformations during similar crises in the future, most of the respondents agreed that the university has been efficient and effective in transforming the learning environment to be completely different online. The study also pointed the satisfaction of the students about Mercer Library and the OWL services' quality during the pandemic.

Conclusion

We concluded that the students' opinions, attitudes, and perceptions are critical for meeting their expectations, attaining their courses' learning objectives, and serving them smoothly and efficiently throughout COVID-19's emergency online learning. During crises, it is critical to develop and deliver a creative and flexible online learning environment where student communication and engagement are crucial to building trust and enhancing the offered services' usability, adoption, and acceptance.

We recommend that higher education institutes should design and apply diverse effective strategies for smooth transition from offline or partial-online learning to sudden online learning. Each education institution should explore its online-related challenges faced by students and faculty, and explore both parties' opinions, preferences, and suggestions. Based on the parties' output, the institutions must apply educational and administrative modifications to enhance the acceptance and mastering the online learning transition. Some of these strategies could be recording lectures, adding online or offline virtual sessions (e.g., Zoom meetings), proper training of the faculty who have inadequate online teaching skills and experience, and peer review the instructors' online syllabi and content (Camilleri, 2021; Faize & Nawaz, 2020; Quispe-Prieto et al., 2021).

The higher education institutions should understand and explore the diverse motives behind the students' academic decisions and try to modify and give valuable insight into the organizations' financial policies. Reach out and follow on the students who hold specific personal and financial characteristics. Future research should be conducted to further study and investigate all the factors

that adversely affected the students during the pandemic and follow on the economic and psychological impact of the pandemic on those students for at least five years from their exposure to this pandemic. Dropping out of the vulnerable and under-served students could adversely affect the future job market and the socio-economic status of the dropped-out students and their families on short and long runs (Bulman & Fairlie, 2021; Farcnik et al., 2021; Rodríguez-Planas, 2021). Future research need to be done to explore how the pandemic has affected faculty's teaching strategies because faculty experience is interconnected with the students'. Administrators and students faced different challenges during the pandemic that may have had repercussions in the teaching and learning processes.

REFERENCES

- Aguilera-Hermida, A. P. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International Journal of Educational Research Open*, 1, 100011. <https://doi.org/10.1016/j.ijedro.2020.100011>
- Akuratiya, D. A., & Meddage, D. N. (2020). Students' perception of online learning during COVID-19 pandemic: A survey study of IT students. *Tablet*, 57(48), 23. https://www.researchgate.net/profile/Nadeeshika-Meddage-2/publication/345140171_Students'_Perception_of_Online_Learning_during_COVID-19_Pandemic_A_Survey_Study_of_IT_Students/links/5f9ecf88299bf1b53e56572a/Students-Perception-of-Online-Learning-during-COVID-19-Pandemic-A-Survey-Study-of-IT-Students.pdf
- Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. *Higher education studies*, 10(3), 16-25. <https://doi.org/10.5539/hes.v10n3p16>
- Almahasees, Z., Mohsen, K., & Amin, M. O. (2021). Faculty's and students' perceptions of online learning during COVID-19. *Front. Educ*, 6, 638470. <http://doi.org/10.3389/educ.2021.638470>
- Almomani, E. Y., Qablan, A. M., Atrooz, F. Y., Almomany, A. M., Hajjo, R. M., & Almomani, H. Y. (2021). The influence of coronavirus diseases 2019 (COVID-19) pandemic and the quarantine practices on university students' beliefs about the online learning experience in Jordan. *Frontiers in Public Health*, 8, 997. <https://doi.org/10.3389/fpubh.2020.595874>
- Alzamil, A. (2021). Teaching English speaking online versus face-to-face: Saudi students' experience during the COVID-19 pandemic. *Arab World English Journal (AWEJ) Volume*, 12. <https://dx.doi.org/10.24093/awej/vol12no1.2>
- Bączek, M., Zagańczyk-Bączek, M., Szpringer, M., Jaroszyński, A., & Woźakowska-Kapłon, B. (2021). Students' perception of online learning during the COVID-19 pandemic: a survey study of Polish medical students. *Medicine*, 100(7). <https://doi.org/10.1097/MD.00000000000024821>
- Baticulon, R. E., Sy, J. J., Alberto, N. R. I., Baron, M. B. C., Mabulay, R. E. C., Rizada, L. G. T., ... & Reyes, J. C. 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(2), 615-626. <https://doi.org/10.1007/s40670-021-01231-z>
- Biswas, S., & Biswas, A. (2021). Anxiety level among students of different college and universities in India during lock down in connection to the COVID-19 pandemic. *Journal of Public Health*, 1-7. <https://doi.org/10.1007/s10389-020-01431-8>

- Bulman, G., & Fairlie, R. W. (2021). *The Impact of COVID-19 on Community College Enrollment and Student Success: Evidence from California Administrative Data* (No. w28715). National Bureau of Economic Research. <https://doi.org/10.3386/w28715>
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research*, 287, 112934. <https://doi.org/10.1016/j.psychres.2020.112934>
- Camilleri, M. A. (2021). Evaluating service quality and performance of higher education institutions: a systematic review and a post-COVID-19 outlook. *International Journal of Quality and Service Sciences*. <https://doi.org/10.1108/IJQSS-03-2020-0034>
- Chang, J. Y. F., Wang, L. H., Lin, T. C., Cheng, F. C., & Chiang, C. P. (2021). Comparison of learning effectiveness between physical classroom and online learning for dental education during the COVID-19 pandemic. *Journal of Dental Sciences*, 16(4), 1281-1289. <https://doi.org/10.1016/j.jds.2021.07.016>
- Chung, E., Subramaniam, G., & Dass, L. C. (2020). Online learning readiness among university students in Malaysia amidst Covid-19. *Asian Journal of University Education*, 16(2), 45-58. <https://doi.org/10.24191/ajue.v16i2.10294>
- Dangal, M. R., & Bajracharya, L. S. (2020). Students' anxiety experiences during COVID-19 in Nepal. *Kathmandu University Medical Journal*, 18(2), 53-57. <https://doi.org/10.3126/kumj.v18i2.32957>
- Daniel, S. J. (2020). Education and the COVID-19 pandemic. *Prospects*, 49(1), 91-96. <https://link.springer.com/article/10.1007/s11125-020-09464-3/>
- Dhar, B. K., Ayithey, F. K., & Sarkar, S. M. (2020). Impact of COVID-19 on psychology among the university students. *Global Challenges*, 4(11), 2000038. <https://onlinelibrary.wiley.com/doi/pdf/10.1002/gch2.202000038>
- Eisler, R. M., Skidmore, J. R., & Ward, C. H. (1988). Masculine gender-role stress: Predictor of anger, anxiety, and health-risk behaviors. *Journal of Personality Assessment*, 52(1), 133-141. https://doi.org/10.1207/s15327752jpa5201_12
- Faize, F. A., & Nawaz, M. (2020). Evaluation and improvement of students' satisfaction in online learning during COVID-19. *Open Praxis*, 12(4), 495-507. <https://dx.doi.org/10.5944/openpraxis.12.4.1153>
- Farcnik, D., Muren, P. D., & Franca, V. (2021). Drop-out, stop-out or prolong? The effect of COVID-19 on students' choices. *International Journal of Manpower*. Advance online publication. <https://doi.org/10.1108/IJM-06-2021-0353>
- Hattar, S., AlHadidi, A., Sawair, F. A., Alraheem, I. A., El-Ma'aita, A., & Wahab, F. K. (2021). Impact of COVID-19 pandemic on dental education: online experience and practice expectations among dental students at the University of Jordan. *BMC Medical Education*, 21(1), 1-10. <http://doi.org/10.1186/s12909-021-021-02584-0>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *EDUCAUSE Review*. <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teachingand-online-learning>
- Hossain, M. J., Ahmmed, F., Rahman, S. A., Sanam, S., Emran, T. B., & Mitra, S. (2021). Impact of online education on fear of academic delay and psychological distress among university students following one year of COVID-19 outbreak in Bangladesh. *Heliyon*, 7(6), e07388. <https://doi.org/10.1016/j.heliyon.2021.e07388>

- Hussein, E., Daoud, S., Alrabaiyah, H., & Badawi, R. (2020). Exploring undergraduate students' attitudes towards emergency online learning during COVID-19: A case from the UAE. *Children and youth services review*, *119*, 105699. <https://doi.org/10.1016/j.chilyouth.2020.105699>
- Irfan, M., Shahudin, F., Hooper, V. J., Akram, W., & Abdul Ghani, R. B. (2021). The psychological impact of coronavirus on university students and its socio-economic determinants in Malaysia. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, *58*, 00469580211056217. <https://journals.sagepub.com/doi/pdf/10.1177/00469580211056217>
- Islam, M. A., Barna, S. D., Raihan, H., Khan, M. N. A., & Hossain, M. T. (2020). Depression and anxiety among university students during the COVID-19 pandemic in Bangladesh: A web-based cross-sectional survey. *PloS one*, *15*(8), e0238162. <https://doi.org/10.1371/journal.pone.0238162>
- Ives, B. (2021). University students experience the COVID-19 induced shift to remote instruction. *International Journal of Educational Technology in Higher Education*, *18*(1), 1-16. <https://doi.org/10.1186/s41239-021-00296-5>
- Jones, H. E., Manze, M., Ngo, V., Lamberson, P., & Freudenberg, N. (2021). The impact of the COVID-19 pandemic on college students' health and financial stability in New York City: Findings from a population-based sample of City University of New York (CUNY) students. *Journal of Urban Health*, *98*(2), 187-196. <https://doi.org/10.1007/s11524-020-00506-x>
- Kusumawati, A. J. (2020). Redesigning face-to-face into online learning for speaking competence during COVID-19: ESP for higher education in Indonesia. *International Journal of Language Education*, *4*(2), 276-288. <https://doi.org/10.26858/ijole.v4i2.14745>
- Larmuseau, C., Desmet, P., & Depaepe, F. (2019). Perceptions of instructional quality: Impact on acceptance and use of an online learning environment. *Interactive Learning Environments*, *27*(7), 953-964. <https://doi.org/10.1080/10494820.2018.1509874>
- Maqableh, M., & Alia, M. (2021). Evaluation online learning of undergraduate students under lockdown amidst COVID-19 Pandemic: The online learning experience and students' satisfaction. *Children and Youth Services Review*, *128*, 106160. <https://doi.org/10.1016/j.chilyouth.2021.106160>
- Muflih, S., Abuhammad, S., Al-Azzam, S., Alzoubi, K. H., Muflih, M., & Karasneh, R. (2021). Online learning for undergraduate health professional education during COVID-19: Jordanian medical students' attitudes and perceptions. *Heliyon*, *7*(9), e08031. <https://doi.org/10.1016/j.heliyon.2021.e08031>
- Murphy, M. P. (2020). COVID-19 and emergency eLearning: Consequences of the securitization of higher education for post-pandemic pedagogy. *Contemporary Security Policy*, *41*(3), 492-505. <https://www.tandfonline.com/doi/pdf/10.1080/13523260.2020.1761749?needAccess=true>
- Muthuprasad, T., Aiswarya, S., Aditya, K. S., & Jha, G. K. (2021). Students' perception and preference for online education in India during COVID-19 pandemic. *Social Sciences & Humanities Open*, *3*(1), 100101. <https://doi.org/10.1016/j.ssaho.2020.100101>
- Permatasari, N., Ashari, F. R., & Ismail, N. (2021). Contribution of perceived social support (peer, family, and teacher) to academic resilience during COVID-19. *Golden Ratio of Social Science and Education*, *1*(1), 01-12. <https://doi.org/10.52970/grsse.v1i1.94>

- Quispe-Prieto, S., Cavalcanti-Bandos, M. F., Caipa-Ramos, M., Paucar-Caceres, A., & Rojas-Jiménez, H. H. (2021). A systemic framework to evaluate student satisfaction in Latin American universities under the COVID-19 pandemic. *Systems*, 9(1), 15. <https://doi.org/10.3390/systems9010015>
- Rafique, G. M., Mahmood, K., Warraich, N. F., & Rehman, S. U. (2021). Readiness for online learning during COVID-19 pandemic: A survey of Pakistani LIS students. *The Journal of Academic Librarianship*, 47(3), 102346. <https://doi.org/10.1016/j.acalib.2021.102346>
- Ramos-Morcillo, A. J., Leal-Costa, C., Moral-García, J. E., & Ruzafa-Martínez, M. (2020). Experiences of nursing students during the abrupt change from face-to-face to e-learning education during the first month of confinement due to COVID-19 in Spain. *International Journal of Environmental Research and Public Health*, 17(15), 5519. <https://doi.org/10.3390/ijerph17155519>
- Rodríguez-Planas, N. (2021). COVID-19 and college academic performance: A longitudinal analysis. *Social Science Research Network*. <http://dx.doi.org/10.2139/ssrn.3789380>
- Saha, A., Dutta, A., & Sifat, R. I. (2021). The mental impact of digital divide due to COVID-19 pandemic induced emergency online learning at undergraduate level: Evidence from undergraduate students from Dhaka City. *Journal of Affective Disorders*, 294, 170-179. <https://doi.org/10.1016/j.jad.2021.07.045>
- Sarmiento, Á., Ponce, R., & Bertolín, A. (2021). Resilience and COVID-19. An analysis in university students during confinement. *Education Sciences*, 11(9), 533. <https://doi.org/10.3390/educsci11090533>
- Singh, J., Mathees, B., & Odetunde, A. (2021). Learning online education during COVID-19 pandemic—attitudes and perceptions of non-traditional adult learners. *Quality Assurance in Education*. <https://www.emerald.com/insight/content/doi/10.1108/QAE-12-2020-0147/full/html>
- Slaydon, J., Rose, D., & Allen, L. (2020). Quantifying the personal factor of FTF in an online world. *Journal of Instructional Pedagogies*, 23. <https://files.eric.ed.gov/fulltext/EJ1241960.pdf>
- State of Florida. (March, 2020). Office of the Governor: Executive Order Number 20-91. https://www.flgov.com/wp-content/uploads/orders/2020/EO_20-91-compressed.pdf
- Tang, Y. M., Chen, P. C., Law, K. M., Wu, C. H., Lau, Y. Y., Guan, J., ... & Ho, G. T. (2021). Comparative analysis of Student's live online learning readiness during the coronavirus (COVID-19) pandemic in the higher education sector. *Computers & Education*, 168, 104211. <https://doi.org/10.1016/j.compedu.2021.104211>
- UNESCO. (March 14, 2022). *Education: From disruption to recovery*. <https://en.unesco.org/covid19/educationresponse>
- Ye, Z., Yang, X., Zeng, C., Wang, Y., Shen, Z., Li, X., & Lin, D. (2020). Resilience, social support, and coping as mediators between COVID-19-related stressful experiences and acute stress disorder among college students in China. *Applied Psychology: Health and Well-Being*, 12(4), 1074-1094. <https://doi.org/10.1111/aphw.12211>
- Zainol, Z., & Salleh, Z. (2021). Factors influencing students' academic withdrawal during COVID-19 pandemic. *Global Business & Management Research*, 13. <https://web.s.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=0&sid=50f2785d-8422-4580-892d-52cdd37760b2%40redis>