



International Opportunities in Higher Education Promoted by the COVID-19 Pandemic: Results of A Three-Country Teaching-Learning Experience

Jens Holst^{1*}, Mathieu JP Poirier², Julie Hard³

¹ Department of Nursing and Health Sciences, Fulda University of Applied Sciences, Fulda, Germany

² School of Global Health, York University, Toronto, Canada

³ Faculty of Health, York University, Toronto, Canada

*Corresponding author: jens.holst@pg.hs-fulda.de

Abstrak

Pandemi COVID-19 telah membawa tantangan dan peluang untuk mengajar di pendidikan tinggi. Pergeseran mendadak dari pendidikan tatap muka ke pendidikan online menimbulkan tantangan yang belum pernah terjadi sebelumnya baik bagi guru maupun siswa. Pada saat yang sama, penangguhan cara-cara pengajaran tradisional di seluruh dunia yang tiba-tiba membuka ruang untuk eksperimen dengan pendekatan dan teknik pedagogik yang inovatif, termasuk berbagai bentuk pertukaran antar-universitas waktu-nyata dan kerja sama mahasiswa. Pandemi COVID-19 menyebabkan peralihan mendadak dan mengganggu ke pembelajaran dan pengajaran jarak jauh darurat, serta penghentian simultan untuk mobilitas internasional siswa, fakultas, dan staf. Perubahan pada mode pengajaran dan pembelajaran yang mapan di pendidikan tinggi bersama dengan akhir de facto dari semua upaya mobilitas internasional memimpin direktur kursus kesehatan global dari York University di Kanada dan Fulda University of Applied Sciences di Jerman untuk membangun lingkungan belajar jaringan global yang melibatkan berbagi kuliah virtual dan proyek kelompok kolaboratif internasional. Siswa melaporkan manfaat dari pengalaman belajar yang diperkaya melalui berbagi perspektif, pendekatan, dan debat yang berbeda dengan profesor dan rekan internasional. Koordinasi yang berkaitan dengan perbedaan waktu dan harapan memainkan peran kunci dalam keberhasilan dan mengatasi tantangan untuk kolaborasi di antara siswa. Pandemi COVID-19 telah menunjukkan bahwa pengajaran dan pembelajaran lintas batas antar universitas adalah pilihan pedagogik yang layak dan bermanfaat.

Kata kunci: Belajar-Mengajar Antar Universitas, Pendidikan Transnasional, Covid-19

Abstract

The COVID-19 pandemic has brought challenges and opportunities to teaching in higher education. The sudden pivot from in-person to online education posed unprecedented challenges to both teachers and students. At the same time, the sudden worldwide suspension of traditional ways of lecturing opened a space for experiments with innovative pedagogic approaches and techniques, including various forms of real-time inter-university exchange and student cooperation. COVID-19 pandemic caused a sudden and disruptive shift to emergency remote learning and teaching, as well as a simultaneous halt to international mobility of students, faculty and staff. These changes to established modes of teaching and learning in higher education along with the de facto end of all international mobility efforts led global health course directors from York University in Canada and Fulda University of Applied Sciences in Germany to establish a globally networked learning environment involving shared virtual lectures and international collaborative group projects. Students reported benefits of an enriched learning experience through the sharing of different perspectives, approaches and debates with international professors and peers. Coordination relating to time differences and expectations played a key role in success and overcoming challenges for collaboration among students. The COVID-19 pandemic has shown that cross-border inter-university teaching and learning is a feasible and beneficial pedagogic option.

Keywords: Inter-University Teaching-Learning, Transnational Education, Covid-19

History:

Received : January 29, 2022

Revised : February 02, 2022

Accepted : April 04, 2022

Published : April 25, 2022

Publisher: Undiksha Press

Licensed: This work is licensed under a Creative Commons Attribution 4.0 License



1. INTRODUCTION

The COVID-19 pandemic has brought challenges and opportunities to teaching in higher education. The sudden pivot from in-person to online education posed unprecedented challenges to both teachers and students (Dhawan, 2020; Garad et al., 2021; Simamora, 2020). At the same time, the sudden worldwide suspension of traditional ways of lecturing

opened a space for experiments with innovative pedagogic approaches and techniques, including various forms of real-time inter-university exchange and student cooperation (Huang, 2020; Mulyono et al., 2021; Ro'fah et al., 2020). The near universal shift to online learning has also had the consequence of lowering the barriers to inter-university teaching and exchange. Previously, sharing in-person teaching by coordinating sessions taking place in two or more classrooms with students physically present required the sessions to be connected using to one or more remote lecture halls where groups of students were present (Cagetti et al., 2020; Cahyadi, 2020; Hussein et al., 2020). The physical distance tended to cause different learning conditions between students physically attending the lecture and those who were connected via video stream, because the latter had more indirect contact to the teachers and limited possibilities to interact with them (Karasmanaki & Tsantopoulos, 2021; Saha et al., 2022).

So, to a certain extent, online learning has had an equalizing effect, as lecturers and students adjust to the new realities posed by the pandemic and attend online sessions from their homes (Alchamdani et al., 2020; Binali et al., 2021; Ro'fah et al., 2020). This has significantly reduced efforts and costs for lecturing or joining educational events. At the same time, inequality remained an important issue for concern (Anggrasari, 2020; Hogan & Devi, 2019). Availability of adequate hardware equipment, internet connectivity, supportive social integration and individual contacts remain critical topics that challenge equal opportunities for students (Arizona et al., 2020; Fikri et al., 2021; Hutaaruk & Sidabutar, 2020). Mobility and internationalisation have been heavily affected by the pandemic and the measures taken to prevent the spread of the virus. As early as in March 2020, almost two-thirds of European universities observed a negative impact on their outgoing student mobility (EUA, 2020). Internationalisation as an objective and strategic agenda has certainly not diminished in importance, but its implementation has clearly transformed in the short- to medium-term (de Wit & Altbach, 2020). These impacts have affected Fulda University of Applied Sciences in Fulda, Germany, and York University in Toronto, Canada in different ways. The next paragraphs describe the impacts with reference to examples from Bachelor of Public Health programmes.

COVID-19 suddenly and unexpectedly hit Fulda University of Applied Sciences (FUAS) in two recent development areas. On the one hand side, the first lockdown occurred in the initial phase of the implementation of a publicly funded internationalisation project. In October 2019, the university's department of Nursing and Health Sciences (PG) had obtained considerable funding from the German Academic Exchange Service (DAAD) for promoting the internationalisation of the department and the university as a whole. The majority of funds were planned for and assigned to the exchange of students, faculty, and other staff from and to Fulda in order to build a network of university and practice partners in Europe and worldwide. As traveling became widely impossible from March 2020 onwards, the project staff had to look for other possibilities and pathways towards an enhanced international partner network and increased international exchange opportunities and facilities. On the other side, COVID-19 restrictions, including online teaching of all courses and wide-ranging limitations of travel (Djalante et al., 2020; Hao et al., 2020; Li et al., 2021). The newly established Bachelor Programs in International Health Sciences (IHS) are preparing and starting their mandatory semester abroad, which is regularly scheduled in the third year of the degree program. Approximately 75% of the students had to postpone their semester abroad, leading faculty to provide the content of the subsequent semesters half a year earlier than foreseen in the curriculum.

Although the pandemic posed less of a structural challenge for York University's (YU) newly established School of Global Health than those faced by Fulda University, the opportunities for internationalization and expansion of experiential education proved to be

powerful incentives to embracing new pedagogic approaches. Students in York University’s Bachelor’s programme in Global Health that choose to enrol in the Specialized Honours degree options have the possibility to participate in an international internship placement, but most students either refrain from participating in this programme or select domestic options for practical, financial, or academic reasons. Once all courses were transitioned to online format as of March 2020 and subsequent restrictions on travel were put in place, students that had hoped to participate in an international internship placement faced the possibility of being prevented or even prohibited from doing so, and students from all degree options raised concerns that online learning would reduce experiential learning opportunities. In fact, a November 2020 poll conducted by the Ontario Confederation of University Faculty Associations indicated that the quality of educational experience was the top concern of students in Ontario, even outranking other financial, mental health, and safety concerns (OCUFA, 2020).

The dual need to offer international education, training and internships under the conditions of COVID-19 called for urgent action to minimize the negative consequences of lockdowns and travel restrictions and take advantage of the potential positive opportunities for international exchange (Cairns et al., 2022; English et al., 2022; Gartner & Kolisch, 2021). Developing, setting up and testing innovative teaching and learning methods became an urgent need in order to allow students to finalise their study programmes within the standard period and reduce the negative impact of the pandemic on their training and education (Dhawan, 2020; Fu et al., 2019; Satyawati et al., 2021). This manuscript describes the process of developing, piloting, and evaluating a globally networked learning environment between two universities in Germany and Canada, with the participation of some guest students from Romania. The purpose of this study is to analyze international opportunities in higher education promoted by the covid-19 pandemic and the results of the teaching and learning experiences of three countries.

2. METHODS

This type of research is qualitative research. The research subjects were lecturers, 129 students, and staff at each university. The research locations are Fulda and Yor University. The methods used to collect data are observation, interviews, and questionnaire sheets. Observations and interviews were conducted to find out the views of students and lecturers regarding higher education promoted by the covid-19 pandemic and lecturers' opinions regarding the results of teaching and learning experiences from three countries. The instrument used in collecting data is a questionnaire. The technique used to analyze the information is descriptive qualitative and quantitative analysis. The interview grid instrument is presented in Table 1.

Table 1. List of potential topics for collaborative student group projects

Social protection	Has social protection proven to be able to mitigate the medical, social and/or economic impact of the pandemic?
Regulation of mobility	What measures have been put in place to monitor and restrict international and domestic travel?
Employment opportunities / unemployment	How severe have changes in employment been? What existing, new, and expanded programs have been implemented to reduce unemployment?
Impact on education	What policies have schools implemented to protect students, teachers, and staff at the primary, secondary, and university levels?

Public information / media	Who is responsible for communicating government public health and policy information to the public, and what is the role of media in disseminating this information?
Protective measures	What measures have been implemented to protect public health or public's health, and how have these measures been relaxed or strengthened throughout the pandemic?
Acceptance (and denial) of COVID-19 measures	To what degree has the public accepted government's and scientists' response to the pandemic, and how has this evolved since the start of the outbreak?
Decentralisation and the COVID-19 response	What level of government has taken the lead in the response to the pandemic? Have there been conflicts between local, state/provincial/regional, and federal governments?
Social impact and inequality	What social, economic, racial, ethnic, or gender inequities have emerged or widened?
Socioeconomic inequalities	When, by whom and to which extent have inequities/inequalities been addressed during the COVID-19 crisis?
Global health	Effects of the pandemic outbreak on global health and global health politics. How has the corona crisis influenced the prevailing global-health debate?
Choose your own topic	If you are passionate about a global health topic not listed above, you can propose your own (must be approved by course director)

3. RESULTS AND DISCUSSION

Results

In the overall view of lecturers involved, inter-university and cross-country teaching offers an excellent opportunity to broaden the scope of content, reach a more diverse student audience, and learn from inter-cultural differences. Particularly in the field of health policy, and even more in international and global (health) policy, exchange between different country perspectives turned out to be enlightening and provided the courses with extraordinary added value for all participants.

I have learned how to collaborate with a larger number of people and how to keep group work organized. I have also learned more about their healthcare system in depth, which was a breath of fresh air because we tend to focus on North American healthcare systems.

It was interesting to see how other governments tackled the COVID-19 issues from the perspective of those who lived there. The first hand experience perspective was enriching.

Regarding didactic requirements, staff experiences gathered during the relatively short phase of inter-university teaching underpinned the need to provide students with timely feedback, including online video tutoring and email guidance after and between classes and to adopt measures to improve the degree and depth of students' class participation described elsewhere (Bao, 2020). Another critical determinant of student engagement appeared to be whether participation and contribution to the collaborative group project was required and marked for course credit. Students indicated a greater willingness to attend guest lecture exchange and actively contribute to group work if they knew the work would be formally evaluated. Fulda and York University found ways of how to integrate the respective course elements into their grading systems. For Fulda students, the incentive was twofold: Faculty informed the students before the inter-university sessions that about 25% of the term paper to

be submitted at the end of the semester were dedicated to a brief description as well as a critical analysis and evaluation of the joint group work; in addition, the active and proven participation in the joint group work was rewarded with a 0.3 bonus of the final grade (based on the German grading systems between 1 (best) and 5 (failed) with one-third steps. York University students were first required to prepare a group project plan worth 5% of the final mark, anticipating and planning to overcome barriers to effective collaboration prior to the start of the exchange. The international collaborative project was evaluated on a group-by-group basis out of a total of 21% of the final mark, with adjustments based on individual contributions reported in a group progress report. Finally, a writing activity completed at the end of term prompted students to reflect on challenges and areas of growth spurred by the exchange, and the final exam contained questions based on lectures delivered in all three weeks of shared teaching. The ranking of students from various aspects of the Globally Networked Learning Environment divided by respondent universities is presented in [Figure 1](#).

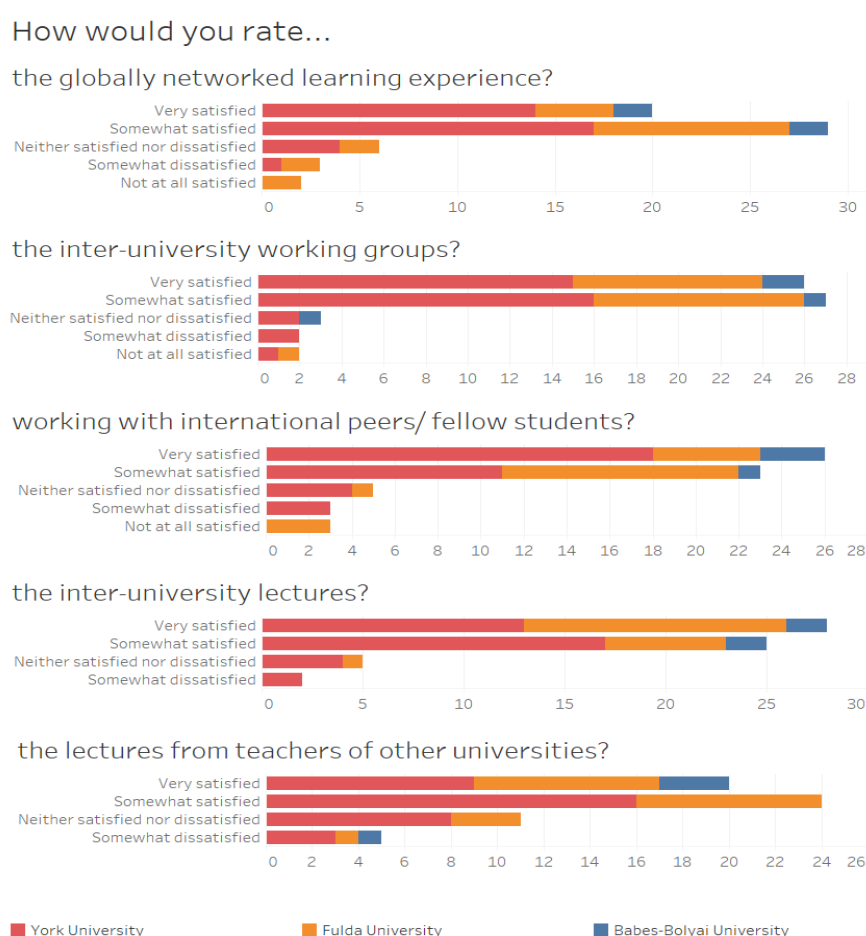


Figure 1. Student ratings of various aspects of the Globally Networked Learning Environment divided by university of respondent

After finalising the inter-university lectures and the mixed working groups, students were invited to participate in an anonymous survey conducted by a third party (York International) to explore the impact of the innovative learning experience. Approximately 50% of the students participated in the survey, with 20 out of 36 from FUAS and 36 out of 93 from YU participating, for a total of 60 out of 129 students who attended the sessions.

Students were asked about overall impressions of the course, challenges to overcome, and ways their learning was enriched. All in all, 55 out of the 60 students indicated that they would be interested to participate in a similar experience in the future. Student satisfaction was consistently high, ranging from a low of 73% for lectures of teachers from other universities and a high of 88% for inter-university lectures and the inter-university working groups. Students were asked to comment on areas they felt the learning format and experience worked well. Recurring comments revealed student appreciation for the online lecture format provided by different professors, the opportunity to hear different perspectives on topic areas, and the process of collaboration with international students. Personalized feedback and assignments reportedly allowed for enjoyable and creative opportunities to develop teamwork and organizational skills in a virtual international context.

I really liked the chance to meet with the professors and discuss our progress. It was a really important session and gave us a lot of personalized feedback. I also really enjoyed the project itself and the combination of the policy brief and a more creative output.

Some notable limitations included overcoming the time difference of 6-7 hours between Toronto and Germany / Romania, respectively. Time differences challenged students to find mutually agreeable times to coordinate international groupwork on assignments. Students were additionally critical of the size of each working group indicating groups were too large, further compounding coordination challenges, and reportedly permitted variability in participation among its members.

Lecture duration and delivery times were felt to be too long, inconvenient, and too late in the evening for some students. In the future challenges related to time and time differences could be overcome by recording asynchronous sessions; however, this would reduce the interactivity and liveness of lectures that were highly valued by students. Issues related to coordinating over several platforms for video conferencing (Webex, Zoom) and communication and file sharing (email, WhatsApp, Slack, Google) were relatively minor, with lectures being held over Webex and leaving other communications and file sharing decisions to each student group. Even though students were unable to meet physically with their international peers, several expressed that the online experience helped with providing a "real-life" simulation of what it may feel like to collaborate with international colleagues. The process simulated the very real challenges related to coordinating between different time zones, technologies, languages, and cultures that is inherent to working in the field of global health. This intercultural exchange was also highlighted as one of the most rewarding aspects of the experience, with different approaches to teaching, learning, collaborating, and policy analysis ultimately enriching the collaborative experience.

[I enjoyed the] overall experience of working with students around the same age group as us, and understanding how life after COVID-19 has changed for them. To learn the differences and similarities between our experiences in school and life in general. During lockdowns and quarantines, we tend to fall under the same routine and daily life, which is why it was a pleasant experience when that changed, for we got to meet new people and communicate with them. Overall, they were genuinely kind people, easy to talk to and were very open about their perspective about how COVID-19 was affecting their lives.

Discussion

COVID-19 has been a huge challenge for higher education, and universities were forced to develop strategies for safeguarding adequate learning and teaching (El-Sayad et al., 2021; Noori, 2021; Simamora, 2020). Inter-university and cross-border had already been implemented earlier in various settings and generated a majorly positive echo among

lecturers and faculty (Poulová & Šimonová, 2015). Former research has shown both opportunities and barriers of inter-university cooperation arising from the heterogeneity of the participants and different perspectives on the topics covered beyond group dynamics issues, trust, and technical as well as facilitation challenges (Činčera et al., 2019). Recent evidence suggests that under COVID-19 restrictions, online and remote teaching-learning helps students follow the lessons outside the classroom and create an alternative to in-class teaching for completing the syllabus (Basith et al., 2020; Jiang et al., 2021; Mishra et al., 2020).

Online learning requires higher than usual commitment from students, and both students and lecturers are required to develop and implement innovative approaches for making higher education successful (Maulana, 2021; Tang et al., 2021). At the same time, online teaching opens unprecedented opportunities for students to co-design activities and assessments, creating improved opportunities to making them co-producers of their learning (Scherer et al., 2021; Xiong et al., 2020). The fact that it is easier to shape the format of live sessions according to students' needs and regular feedback can help universities make students participate more proactively in directing the course of their learning. While the potential to make students act increasingly as partners in their education looks tempting, it should not be overstretched. Even in online teaching via video chat, the commitment and active enrolment in the education depends more on individual conditions than in face-to-face teaching. It is easier and less risky for students to (partly) pull out of the sessions and hide behind the anonymity of online teaching. This applies mainly to larger cohorts which do not allow a direct supervision of all participants at the time.

Moreover, concurrent experience shows that the ability of students to follow lectures, to actively work on the material and, above all, to actively participate in the lessons, shows even greater differences in online teaching than in face-to-face teaching. Inter-university online teaching does not only have to take into account this general condition but be aware of greater differences within and between the different cohorts (Cahyadi, 2020; Mishra et al., 2020). In the teaching experience of York and Fulda Universities, the attitude, commitment and participation did not show discernible differences between students enrolled in Canadian and German higher education; however Rumanian students were less visible what might be attributable to their low number and the role of guest students. Nonetheless it has to be stressed that the more different teaching-learning habits and cultures are, to more challenging it will be to assure equal possibilities and opportunities for all participants. For preparing joint inter-university sessions and working groups, the faculty of the academic institutions involved are strongly recommended to exchange about teaching-learning strategies, didactic approaches and practical experiences in order to be prepared and capable to adequately respond to the needs and habits of the different student cohorts (Alam & Asimiran, 2021; Karasmanaki & Tsantopoulos, 2021; Sukendro et al., 2020).

Online teaching-learning relies heavily on internet connectivity and the technical equipment available to teachers and especially students (Simamora, 2020; Yulia, 2020)(Baltà-Salvador et al., 2021; Basith et al., 2020). Although coverage of reliable internet connections varies in Germany and offer room for improvement particularly in rural areas, technical problems on students' side were negligible. In the Toronto region internet connectivity is very good overall and allowed students to follow the joint sessions and perform in the joint group work. For Rumanian students, the technical conditions were also sufficient and did not cause major problems. However, one has to be aware that online inter-university teaching learning is likely to be more challenging with academic partners located in low-income or other countries where internet connectivity is unstable; additional challenges might arise if power supply is unreliable. Beyond the general framework conditions, differences in technical equipment is also very likely to play a role. If students

depend on smart phones instead of computer or laptops, knowledge transfer via presentations is seriously hampered, and participation severely limited. Hence, reliable power and internet supply as well as adequate technical equipment are indispensable for making inter-university higher education effective, enjoyable and successful (Hogan & Devi, 2019; Jamaludin et al., 2020; Kimkong Heng & Koemhong Sol, 2020).

One of the highly relevant challenges for students is how to include inter-university learning-teaching into the regular schedule and especially the given grading and assignment conditions, which used to differ from one university to another. It is worth mentioning that most students were motivated to attend the inter-university lectures and committed to contributing to the mixed working groups, although the impact of the joint sessions and working groups as part of the course assignment and grading was limited. It suggests that the primary motivation can be sufficiently strong for students at the different universities to broaden their perspectives and get to know other faculty and students. Moreover, compared to traditional examinations with a focus on recalling information rather than exploring a topic, putting together policy briefing papers, and recording podcasts, videos, narrated Powerpoint presentations or other multimedia products require and reward curiosity and academic inquiry.

4. CONCLUSION

The COVID-19 pandemic has demonstrated that cross-border teaching and learning between universities is a viable and rewarding pedagogical option. The online inter-university teaching-learning mode adopted by York and Fulda University, with the partial involvement of Babes-Bolyai University during the COVID-19 hardship, has proven very promising for both intellectually enriched opportunities, especially in the field of global health and for further academic cooperation in the future. They hold great promise for helping to overcome the lingering restrictions on real-life internationality and globality due to the ongoing and protracted pandemic.

5. REFERENCES

- Alam, G. M., & Asimiran, S. (2021). Online technology: Sustainable higher education or diploma disease for emerging society during emergency—comparison between pre and during COVID-19. *Technological Forecasting and Social Change*, 172. <https://doi.org/10.1016/j.techfore.2021.121034>.
- Alchamdani, A., Fatmasari, F., Rahmadani Anugrah, E., Putri Sari, N., Putri, F., & Astina, A. (2020). The Impact of Covid19 Pandemic on Online Learning Process in the College at Southeast Sulawesi. *Jurnal Kesehatan Lingkungan*, 12(1si), 129. <https://doi.org/10.20473/jkl.v12i1si.2020.129-136>.
- Anggrasari, L. A. (2020). Penerapan e-learning untuk meningkatkan kemampuan literasi digital di era new normal. *Premiere Educandum : Jurnal Pendidikan Dasar Dan Pembelajaran*, 10(2), 248. <https://doi.org/10.25273/pe.v10i2.7493>.
- Arizona, K., Abidin, Z., & Rumansyah, R. (2020). Pembelajaran Online Berbasis Proyek Salah Satu Solusi Kegiatan Belajar Mengajar Di Tengah Pandemi Covid-19. *Jurnal Ilmiah Profesi Pendidikan*, 5(1). <https://doi.org/10.29303/jipp.v5i1.111>.
- Baltà-Salvador, R., Olmedo-Torre, N., & Peña, M. (2021). Academic and emotional effects of online learning during the COVID-19 pandemic on engineering students. *Educ Inf Technol*, 1(1). <https://doi.org/10.1007/s10639-021-10593-1>.
- Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Hum Behav & Emerg Tech*, 2(2). <https://doi.org/10.1002/hbe2.191>.

- Basith, A., Rosmayadi, R., Triani, S. N., & Fitri, F. (2020). Investigation of Online Learning Satisfaction During COVID 19: In Relation to Academic Achievement. *Journal of Educational Science and Technology (EST)*, 1(1), 265–275. <https://doi.org/10.26858/est.v1i1.14803>.
- Binali, T., Tsai, C. C., & Chang, H. Y. (2021). University students' profiles of online learning and their relation to online metacognitive regulation and internet-specific epistemic justification. *Computers and Education*, 175(August), 104315. <https://doi.org/10.1016/j.compedu.2021.104315>.
- Cagetti, M. G., Cairoli, J. L., Senna, A., & Campus, G. (2020). COVID-19 Outbreak in North Italy : An Overview on Dentistry . A Questionnaire Survey. *International Journal of Environmental Research and Public Health*, 17, 1–12. <https://doi.org/10.3390/ijerph17113835>.
- Cahyadi, A. (2020). Covid-19 Outbreak and New Normal Teaching in Higher Education: Empirical Resolve from Islamic Universities in Indonesia. *Dinamika Ilmu*, 20(2), 255–266. <https://doi.org/10.21093/di.v20i2.2545>.
- Cairns, D., França, T., Calvo, D. M., & Azevedo, L. de. (2022). An immobility turn? The Covid-19 pandemic, mobility capital and international students in Portugal. *Mobilities*, 4. <https://doi.org/10.1080/17450101.2021.1967094>.
- Činčera, J., Mikusiński, G., Binka, B., Calafate, L., Calheiros, C., Cardoso, A., HedČinčera, J., Mikusiński, G., Binka, B., Calafate, L., Calheiros, C., Cardoso, A., Hedblom, M., Jones, M., Koutsouris, A., Vasconcelos, C., I., & Jones, M., K. (2019). Managing Diversity: The Challenges of Inter-University Cooperation in Sustainability Education. *Sustainability*, 11(20). <https://doi.org/10.3390/su11205610>.
- de Wit, H., & Altbach, P. (2020). Internationalization in higher education: global trends and recommendations for its future. *Policy Reviews in Higher Education*, 5(1). <https://doi.org/10.1080/23322969.2020.1820898>.
- 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>.
- Djalante, R., Lassa, J., Setiamarga, D., Sudjatma, A., Indrawan, M., Haryanto, B., ..., & Warsilah, H. (2020). Review and Analysis of Current Responses to COVID-19 in Indonesia: Period of January to March 2020. *Progress in Disaster Science*, 6(1). <https://doi.org/10.1016/j.pdisas.2020.100091>.
- El-Sayad, G., Md Saad, N. H., & Thurasamy, R. (2021). How higher education students in Egypt perceived online learning engagement and satisfaction during the COVID-19 pandemic. *Journal of Computers in Education*, 8(4). <https://doi.org/10.1007/s40692-021-00191-y>.
- English, A. S., Yang, Y., Marshall, R. C., & Nam, B. H. (2022). Social support for international students who faced emotional challenges midst Wuhan's 76-day lockdown during early stage of the COVID-19 pandemic. *International Journal of Intercultural Relations*, 87. <https://doi.org/10.1016/j.ijintrel.2022.01.003>.
- EUA. (2020). *European higher education in the Covid-19 crisis*. European University Association.
- Fikri, M., Ananda, M. Z., & Faizah, N. (2021). Kendala Dalam Pembelajaran Jarak Jauh di Masa Pandemi Covid-19 : Sebuah Kajian Kritis. *Jurnal Education and Development Institut Pendidikan Tapanuli Selatan*, 9(1), 145–148. <https://doi.org/10.37081/ed.v9i1.2290>.
- Fu, Q.-K., Lin, C.-J., Hwang, G.-J., & Zhang, L. (2019). Impacts of a mind mapping-based contextual gaming approach on EFL students' writing performance, learning

- perceptions and generative uses in an English course. *Computers & Education*, 137. <https://doi.org/10.1016/j.compedu.2019.04.005>.
- Garad, A., Al-Ansi, A. M., & Qamari, I. N. (2021). The Role Of E-Learning Infrastructure And Cognitive Competence In Distance Learning Effectiveness During The Covid-19 Pandemic. *Cakrawala Pendidikan*, 40(1). <https://doi.org/10.21831/cp.v40i1.33474>.
- Gartner, D., & Kolisch, R. (2021). Mathematical programming for nominating exchange students for international universities: The impact of stakeholders' objectives and fairness constraints on allocations. *Socio-Economic Planning Sciences*, 76. <https://doi.org/10.1016/j.seps.2020.100974>.
- Hao, F., Xiao, Q., & Chon, K. S. (2020). COVID-19 and China's Hotel Industry: Impacts, a Disaster Management Framework, and Post-Pandemic Agenda. *International Journal of Hospitality Management*, 90. <https://doi.org/10.1016/j.ijhm.2020.102636>.
- Hogan, R., & Devi, M. (2019). A synchronous pedagogy to improve online student success. *International Journal of Online Pedagogy and Course Design*, 9(3), 61–77. <https://doi.org/10.4018/IJOPCD.2019070105>.
- Huang, Y. (2020). Research on Online Education in the Midst of the COVID-19 Pandemic. *Journal of Advances in Education Research*, 5(2), 125–137. <https://doi.org/10.22606/jaer.2020.52005>.
- Hussein, E., Daoud, S., Alrabaiiah, 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(10), 105699. <https://doi.org/10.1016/j.childyouth.2020.105699>.
- Hutauruk, A., & Sidabutar, R. (2020). Kendala pembelajaran daring selama masa pandemi di kalangan mahasiswa pendidikan matematika: Kajian kualitatif deskriptif. *Journal of Mathematics Education and Applied*, 02(01), 45–51. <https://doi.org/10.36655/sepren.v2i1.364>.
- Jamaludin, G. M., Supriatna, D., & Burhani, A. Z. (2020). the Effect of Online Learning System During the Covid-19 Pandemic on Students' Learning Motivation and Interest in Learning. *Jurnal Tatsqif*, 18(2), 169–182. <https://doi.org/10.20414/jtq.v18i2.2795>.
- Jiang, H., Islam, A. Y. M. A., & Gu, X. et al. (2021). Online learning satisfaction in higher education during the COVID-19 pandemic: A regional comparison between Eastern and Western Chinese universities. *Educ Inf Technol*, 1(1). <https://doi.org/10.1007/s10639-021-10519-x>.
- Karasmanaki, E., & Tsantopoulos, G. (2021). Impacts of social distancing during COVID-19 pandemic on the daily life of forestry students. *Children and Youth Services Review*, 120(December 2020), 105781. <https://doi.org/10.1016/j.childyouth.2020.105781>.
- Kimkong Heng, & Koemhong Sol. (2020). Online learning during COVID-19: Key challenges and suggestions to enhance effectiveness. *Cambodian Education Forum (CEF)*, December, 1–15. <https://doi.org/10.1371/journal.pone.0248758>.
- Li, Y., Zhuang, X., Wang, J., & Dong, Z. (2021). Analysis of the impact of COVID-19 pandemic on G20 stock markets. *North American Journal of Economics and Finance*, 58(January), 101530. <https://doi.org/10.1016/j.najef.2021.101530>.
- Maulana, H. A. (2021). Psychological Impact of Online Learning during the COVID-19 Pandemic: A Case Study on Vocational Higher Education. *Indonesian Journal of Learning Education and Counseling*, 3(2), 130–139. <https://doi.org/10.31960/ijolec.v3i2.833>.
- Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, 1, 100012. <https://doi.org/10.1016/j.ijedro.2020.100012>.

- Mulyono, H., Suryoputro, G., & Jamil, S. R. (2021). The application of WhatsApp to support online learning during the COVID-19 pandemic in Indonesia. *Heliyon*, 7(8), e07853. <https://doi.org/10.1016/j.heliyon.2021.e07853>.
- Noori, A. Q. (2021). The Impact of COVID-19 Pandemic on Students' Learning in Higher Education in Afghanistan. *Heliyon*, 7(June), e08113. <https://doi.org/10.1016/j.heliyon.2021.e08113>.
- OCUFA. (2020). *OCUFA Study: COVID-19 and the Impact on University Life and Education*. Ontario Confederation of University Faculty Associations.
- Poulová, P., & Šimonová, I. (2015). Borderless Education: InterUniversity Study – Tutors' Feedback. *Procedia - Social and Behavioral Sciences*. <https://doi.org/10.1016/j.sbspro.2015.01.230>.
- Ro'fah, R., Hanjarwati, A., & Suprihatiningrum, J. (2020). Is Online Learning Accessible During COVID-19 Pandemic? Voices and Experiences of UIN Sunan Kalijaga Students with Disabilities. In *Nadwa* (Vol. 14, Issue 1). <https://doi.org/10.21580/nw.2020.14.1.5672>.
- Saha, S. M., Pranty, S. A., Rana, M. J., Islam, M. J., & Hossain, M. E. (2022). Teaching during a pandemic: do university teachers prefer online teaching? *Heliyon*, 8(1), e08663. <https://doi.org/10.1016/j.heliyon.2021.e08663>.
- Satyawan, I. M., Wahjoedi, & Swadesi, I. K. I. (2021). The Effectiveness of Online Learning Methods During the Covid-19 Pandemic. *Journal of Education Technology*, 5(2), 191–199. <https://doi.org/10.2991/assehr.k.210203.093>.
- Scherer, R., Howard, S. K., Tondeur, J., & Siddiq, F. (2021). Profiling teachers' readiness for online teaching and learning in higher education: Who's ready? *Computers in Human Behavior*, 118, 106675. <https://doi.org/10.1016/j.chb.2020.106675>.
- Simamora, R. M. (2020). The Challenges of Online Learning during the COVID-19 Pandemic: An Essay Analysis of Performing Arts Education Students. *Studies in Learning and Teaching*, 1(2), 86–103. <https://doi.org/10.46627/silet.v1i2.38>.
- Sukendro, S., Habibi, A., Khaeruddin, K., Indrayana, B., Syahrudin, S., Makadada, F. A., & Hakim, H. (2020). Using an extended Technology Acceptance Model to understand students' use of e-learning during Covid-19: Indonesian sport science education context. *Heliyon*, 6(11), e05410. <https://doi.org/10.1016/j.heliyon.2020.e05410>.
- Tang, Y. M., Chen, P. C., Law, K. M. Y., Wu, C. H., Lau, Y., Guan, J., He, D., & Ho, G. T. S. (2021). Comparative analysis of Student's live online learning readiness during the coronavirus (COVID-19) pandemic in the higher education sector. *Computers & Education*, 168. <https://doi.org/10.1016/j.compedu.2021.104211>.
- Xiong, W., Mok, K. H., Ke, G., Oi, J., & Cheung, W. (2020). Impact of COVID-19 Pandemic on International Higher Education and Student Mobility: Student Perspectives from Mainland China and Hong Kong. *Centre for Global Higher Education*, 105(August 2020), 101718. <https://doi.org/10.1016/j.ijer.2020.101718>.
- Yulia. (2020). Online Learning to Prevent the Spread of Pandemic Corona Virus in Indonesia. *ETERNAL (English Teaching Journal)*, 11(1). <https://doi.org/10.26877/eternal.v11i1.6068>.