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Development Speeded up by Necessity:

The Future of Teaching and Learning in Higher Education

Emergent Research Forum (ERF)

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Abstract

The COVID-19 pandemic had a dramatic impact on our lives and living. In higher education, it led to a swift shift from on-campus to online education resulting in practices of emergency remote teaching through virtual classrooms. In this project, we seek to gain a deeper understanding of the challenges and opportunities that this abrupt, enforced change to online education entailed for faculty and students in Sweden and Finland. We aim to examine the evolution of online work and study practices, their impact on the teaching and learning environment, and new expectations imposed on the faculty and students. Our goal is to enhance the theoretical understanding of e-learning, developing guidelines on how to make online education effective, exploring the impact of pandemics on the future of higher education.

Keywords

Pandemic, higher education institutions (HEIs), online education, digitalization.

Introduction

Digitalization changes conditions for communication, meaning-making, and learning which affects our entire lives. Digital competence as a politically driven conceptualization of the use of digital technology for leisure time and professional purposes at work is central in decisions and initiatives regarding education

policy and quality in education (OECD 2017). A majority of EU countries are currently reforming their educational systems towards digitalized forms explicitly including learning goals and objectives addressing digital competence in curricula (Eurydice 2019). Higher education, being one of these educational structures, faces challenges in relation to digitalization, educating for the future when the future is rapidly changing. Teachers are expected to acquire new knowledge and develop strategies and methods to meaningfully integrate digital technology into educational practice and organize teaching so that the student can use digital tools in a way that promotes knowledge development (UNESCO 2019; Voogt et al. 2013).

The COVID-19 pandemic had a dramatic effect on our lives. For students and faculty in higher education institutions (HEIs), it led to a swift shift from on-campus to online education, resulting in practices of emergency remote teaching and distance learning formats through virtual classrooms (Neuwirth et al. 2020). At this moment, little is known about the perceptions of faculty and students of the enforced changes and the strategies used to adapt to the new normal in university life. It remains to be seen what teaching and learning practices might have been perceived as beneficial and become incorporated in student life in the post-COVID era. Though many online teaching processes developed from 'zero-night' survival actions to institutionalized practices (Carugati et al. 2020), it is unclear how these practices evolve once both face-to-face and online approaches become viable again.

Purpose and Research Questions

In this research project, we seek to gain a deeper understanding of the challenges and opportunities that the abrupt change to online education entailed for faculty and students in Nordic countries, with a particular focus on Swedish and Finnish HEIs. While both countries are characterized by a relatively high digital development, it is not clear whether the switch to online education was smooth.

This interdisciplinary project aims to explore the impact of the pandemic on teaching and students' learning practices in higher education. Our goal is to enhance the theoretical understanding of e-learning and e-teaching, enforced by the experiences of the pandemic, valid for learning and teaching in general and for post-COVID practices in particular. The project will empirically examine the perceptions and experiences of faculty members and students of online teaching and learning during and post-pandemic, approaching several different educational programs and practices. Together with students and faculty, we will develop guidelines on how to make online education not only effective but also engaging, meaningful, and equitable for the students and staff.

Against this background, we pose the following research questions from the perspectives of students and staff:

1. In what way did pandemic "help" us to understand and to develop what practices are successful in relation to the organization of teaching, educational goals, assessment and examination, and psychosocial learning environment for online education?
2. What is the impact of the pandemic on the future practice of teaching and learning in different programs and practices?

Seeking to answer these questions we have identified four specific project objectives:

– Analyze and identify the main challenges and opportunities that online teaching and learning entail for faculty and students;
– Theorize a model of Nordic online education that depicts sustainable, student-centered online teaching practices;
– Develop a theory and evidence base for guidelines and best practices for online education;
– Showcase these results in a virtual lab for cooperation between HEIs in Nordic countries.

Background

The COVID-19 pandemic has had a tremendous impact on the higher education landscape in terms of impediment of face-to-face classes and a swift switch to online education. The enforced changes brought by the pandemic have accelerated technology-driven disruption (Karimi and Walter 2015) already present in higher education section. A multitude of studies shows that both faculty and students consider online

education problematic in terms of limited teacher-student contact and social interaction (Karalis and Raikou 2020; Mishra et al. 2020), technical difficulties with online tools, and the cost of online connection (Adnan and Anwar 2020; Moralista and Oducado 2020) and lack of engagement and motivation in students (Aristovnik et al. 2020). Online education is also less suitable for some academic programs, e.g. clinical training in medical schools (Burki 2020). On the positive side, flexibility and convenience (Muthuprasad et al. 2021), availability of video materials, and acquiring digital skills (Mishra et al. 2020) can be mentioned.

Apart from challenges, the pandemic provided a unique opportunity for reshaping higher education in terms of paving the way for speeding up the integration of online learning (Liguori and Winkler 2020) and transformation of academic organizational culture (Sá and Serpa 2020). Though it is hard to predict how the post-COVID future will look like, the digital transformation of HEIs is a factum. Most likely, the online mode is going to stay as complementary to the on-campus mode, if not its substitution (Gurukkal 2020). As the switch to the online mode was swift and crisis-driven, many teachers had little experience and training in online tools to provide online teaching professionally and most students lacked skills how to study online effectively. Thus, it necessitates developing online teaching, learning, and evaluation tools as well as the technological infrastructure for their production to assure the quality and reliability of online education. The challenge here is twofold: successfully manage a large-scale digital transformation (Vial 2019) and reshape academic practice to fit with the swift changes. Further, the future of on-campus activities, teaching, and research is essential to address.

This is where the authors of this project seek to contribute, by offering insights on the challenges—but also the opportunities—that the digital transformation caused by pandemic led to in Nordic higher education. The proposed study extends substantially in its ambition to focus on exploring the potential of digital technology in higher education context from an interdisciplinary perspective, including communication and multiliteracies and video-mediated collaborative learning (Háhn 2020; Kędra and Žakevičiūtė 2019; Palviainen and Kędra 2020; Sofkova Hashemi 2014), mobile-assisted learning (Berbyuk Lindström and Sofkova Hashemi 2019; Berbyuk Lindström et al. 2017), digitalization of higher education (Spante et al. 2018), and presence and interaction in online learning environments (Asatiani and Penttinen 2019). The study is built on an interdisciplinary approach, combining insights from the field of education (online pedagogies in particular), communication, discourse, and information technology.

Methods

To address our research questions, we plan to use a mix of primary and secondary data to carry out a qualitative and a quantitative perspective on the study. We start with mapping the educational programs at selected public HEIs in both countries and then explore how the programs reacted to the pandemic and what arrangements were made with regard to teaching and learning. The project will focus both on those educational programs that switched to exclusively online and on those which experienced blended learning, where online learning was combined with traditional face-to-face teaching. As both countries adopt the principle of public access to official documents, all program and course syllabi, as well as other course-related materials, are available to the general public either online or on-demand. After this, we will select a smaller group of programs to focus and elaborate further upon. We will also initiate a literature review of theoretical accounts that will include a thorough analysis of appropriate search strings in Scandinavian languages and English. The literature review will continue throughout the project to keep abreast of new publications and resources.

The project applies a mixed-method research design combining focus group interviews, analysis of program and course syllabi and online surveys. First, the focus group interviews with students and faculty will be conducted in both countries. We will examine the evolution of online teaching and learning practices, their impact on the working and learning environment, and new expectations imposed on the faculty and students. The interviews will build on a set of questions compiled by the countries together. The interviews will be audio-recorded upon receiving written consent. The data collection will be conducted in line with ethical guidelines for confidentiality, consent, information, and autonomy in research. We will analyze transcribed interviews using Thematic Content Analysis (Braun and Clarke 2006) with the data analysis software NVivo12. Data analysis will involve an iterative process of listening to the interviews and reading the transcriptions, assigning codes to the emerging themes, and finally determining patterns in the material. Next, the codes will be assigned and sorted in different categories. The codes that have a high

degree of agreement among the coders will be sorted into sub-themes. The sub-themes will be organized into overarching themes.

Next, we will analyze the changes that were made to the program and course syllabi due to the pandemic to find out how the differences in teaching and learning practices impacted student evaluations.

After the initial analysis of interviews and documents, we will create online 'experiences of online education' surveys, designed in order to reach larger populations of students and faculty in each of the participating countries. The surveys will aim to gauge students' and faculty's perceptions of online education, providing a more granular understanding of its strengths and weaknesses. The obtained data will be analyzed using advanced statistical methods and SPSS software.

This triangulation of the data collection methods enables to provide as complete a picture as possible of the complexity of online teaching and learning in higher education.

Expected outcomes

Societal development globally has taken great strides in the last twenty years, with the increasing use of digital technology and digitalization in general. Digitalization as an information-technological revolution is a paradigm shift that affects our lives, including the educational structures of the society (Jonker et al. 2018). Higher education faces challenges educating for the future when the future is rapidly changing.

This project will expand the higher education readiness towards the online learning agenda and gaining insights into the management of digital classrooms from Swedish and Finnish universities during the inevitable change of the higher education norm. It will support theory development and assimilation of knowledge between HEIs in Sweden and Finland in utilizing digital tools to deliver quality teaching for online and blended learning students (work-based learning). It will also facilitate cooperation and enhance the potential for policy impact for higher education.

This project will contribute to our understanding of digital transformation in the context of higher education institutions. We aim to answer the call of Vial (2019) and study how dynamic capabilities contribute to digital transformation. This project will also support the identification and dissemination of innovative best practices of conducting teaching and research in online and blended environments.

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