Research Article

From Classroom to Online Teaching – A Case during COVID19

Harri Ruoslahti ⬤ (✉)

Laurea University of Applied Sciences, Espoo, Finland, http://www.laurea.fi

A B S T R A C T :

The Covid19-virus outbreak during the spring of 2020 forced many changes in work, life and society. Laurea University of Applied Sciences (Laurea) closed all of its six campuses on March 9, 2020, and all teaching activities were transferred to online communication and learning platforms such as Zoom, Teams and Optima. This article presents qualitative case study research. Six teachers of Laurea University of Applied Sciences wrote short narratives of their experiences in moving from classroom to online teaching. The narratives were analysed, and the results grouped under relevant themes: Level of Preparation, Challenges and Risks, and Student Feedback and New ways of Work. The transition from classroom to online teaching was relatively easy for the respondents. The main reason was that the program already had created extensive online content and could be used for a fast transition. The contribution of this article is in presenting one practical case of rapid transition from classroom to online learning.

Introduction

The Covid19-virus outbreak during the spring of 2020 forced many changes in work life and society. Laurea University of Applied sciences closed all of its six campuses on the 9th of March 2020 (Laurea).

All teaching activities were transferred to online communication and learning platforms (e.g. Zoom, Teams, Optima). At the time of the writing this paper,

✉ Tel.: +358 50 4497788; E-mail: harri.ruoslahti@laurea.fi

both teachers and students have had all interactions are via e-mail, phone and online-conferencing and online-teaching systems.

In line with the study of e-skills and training, which is in focus of the ECHO project, moving studies and work from face-to-face contacts to virtual contacts overnight, have clear societal impacts (SI). The e-skills and training of both students and teachers were put to a test. The underlying paradigm for this will be Network Co-creation and Organizational Learning (OL) in the spirit of LbD, which is the official pedagogic model of Laurea. The purpose of this paper is to present a case study of how one group of teachers were able to move from classroom to Web-based teaching. A practical implication is better understanding how ICT-learning tools can be used and gaining insight in hoof what impacts this transition may have on future e-skills training and on society. The case this study investigates is the Security and Risk management teaching team of Laurea University of Applied Sciences moving all its teaching activities from classrooms to online.

The research question is: How teaching activities were moved from classroom to online?

This paper looks first at some relevant literature, describes the method used, presents results, and conclusions.

Literature

The ECHO (European Network of Cybersecurity Centres and Competence Hub for Innovation and Operations) project started in 2019. Project ECHO aims at organizing a networked approach that through effective and efficient multi-sector collaboration aims at strengthening proactive cyber security in the European Union. This study adds in part to the body of knowledge, which the project cumulates.

Modern society is increasingly technology driven, mostly due to the emergence of the Internet, which has modified social dynamic in many ways, e.g. how people interact with each other thorough social networking platforms. Businesses are transforming traditional companies toward digital-oriented firms, and learning becomes facilitated with e-learning platforms (Chamie, 2020). Acceptance of ICT and mobile technologies are mainly influenced by social factors, such as perception of ease of use. This directly influences the behaviour of using mobile learning (Turi et al., 2019).

Advances to information and communications technology (ICT) tools provide constant and instant access to the Internet. Besides the many benefits of utilizing the Internet and other ICT technology, unfortunately there are also threats. An ICT-oriented society calls for developing ICT-skills for citizens, students and the workforce (Singh, 2012). Topham et al. (2016) promote practical training through network simulated exercises and interactive cyber-lab trainings, which can benefit developing relevant cyber skills for students learning cyber security training in higher education.

Blended learning, where e-learning and traditional face-to-face interaction can offer their respective strengths to promote optimal learning results and eliminate some weaknesses such as quality, effectiveness, efficiency, and ability

for knowledge application (Conková, 2013), and Lemmetty & Collin (2019) promote self-directed learning.

Laurea University of Applied Sciences bases learning on the action model Learning by Developing (LbD), where practice and projects function as learning environments, while they also create new knowledge for innovations. LbD has five dimensions, which are learning / working environment, authenticity, experiential nature, partnership, creativity, and research orientation (Laurea, 2011). "A learning environment is also a psychological state. It enables encounters among different participants and interaction that leads to genuine cooperation. The atmosphere is open and respects equality. The working culture is inspiring, supporting creative and finding new ideas" (p. 12).

Annansingh & Bright (2010) note that e-learning are distributed through web-based platforms and accessible on any computer device connected to the Internet. E-learning offer benefits such as remote accessibility, being able to work on courses at any location and time, possibilities for interactive training, practical applications that focus on situational examples, and the ability to repeat previous courses to absorb the concepts more thoroughly (Aaltola & Taitto, 2019). Additionally, information from web-based e-learning is easier to record or retain than in traditional training. However, e-learning requires essential ICT-skills, and Annansingh and Bright (2010) recommend that effective delivery of e-learning courses must consider the needs of the e-learners. According to Laurea (2011, p. 12), "Learning environments enable joint activities, evaluation and development of personal ways of action based on experiences."

Aaltola and Taitto (2019) note that responding to crisis and building resilience require multidisciplinary approaches, where training and exercises should simulate reality.

Methods

The method of this study is qualitative case study research. Twelve teachers of University of Applied Sciences were asked to write short narratives of their experiences in moving from classroom teaching to online teaching. Six teachers responded and described their experiences in transferring to full online-teaching by addressing the items shown in Table 1 (below).

The narratives were then analysed based on the items presented in the above Table 1. The results of the analysis are presented below in the Results section grouped under four relevant themes, which are Level of Preparation, Challenges and Risks, and Student Feedback and New ways of Work.

Results – From Classroom to online

The transfer from the campuses of Laurea University of Applied Sciences was forced by the COVID19 outbreak. All teaching and learning were moved to be done online from home. Despite the change was quick and abrupt, the respondents find that the transfer has gone quite smoothly.

Table 1. Items addressed to answer the research question of this study.

RQ: How teaching activities were moved from classrooms to online?

− Describe transfer to full online-teaching

− Describe prerequisites for shifting to online-teaching

− Describe challenges of shifting to online-teaching

− Feedback from students

− Threats or challenges of prolonged online-teaching

− New methods, tools or contents used

Level of Preparation

All teachers and students had prior experience in teaching / learning online, so they mostly had the relevant e-skills and digital solutions. The contents of several courses fortunately were mostly adaptable to be transferred online. In addition, the transfer occurred at a time in the semester, where many courses had already were well on their way.

"Luckily I had been involved in a few online courses, so it wasn't a total shock" (Respondent). One respondent noted that online teaching was already an every-day event.

Moving to online teaching forced one teacher to discontinue a practical project as a learning context. Creating an alternative online assignment to replace the lost project context unfortunately meant additional work for this teacher. Teaching that had been planned to be held in-class was mostly transferred into Zoom webinars and other forms of virtual events.

All respondents were used to working partially from home. Additionally, the school had informed well of how the situation developed, so, the final "lockdown" was not a surprise. Yet, there was little time to change materials and content to the online environment. Tutoring a small number of students felt the most natural, according to one respondent.

Some negatives that the respondents mentioned were, for one, that interaction with students remained lacking during online lectures. Secondly students seem to concentrate less during online sessions than, when physically present in the classroom. Third, creating classroom assignments in breakout rooms did not feel quite natural.

The respondents discussed the level of preparation and prerequisites to move to full online teaching, in relation to e.g. time, tools and support. The experiences of respondents varied from an Ok to an easy transfer. This seemed to be dependent on the level of online teaching experience and proficiency in the use of digital tools and solutions of each teacher. Everyone had at least some

prior experience. For some it took longer to make the initial transition of materials and content.

A laptop and headphones, with the available digital communication and learning platforms, were deemed to be quite enough for tools needed. Teachers noted that their prior experience in building and teaching online classes has helped.

Laurea is changing its online learning environment from Optima to Canvas. As this change coincided with also having to quickly, create online content, which has meant some additional work. Overall, respondents find that remote work has been even notably more time-consuming than work before the COVID19 outbreak. The many different online solutions that Laurea offers enable creating diverse content, but unfortunately, there has not been time to take full advantage of these opportunities. The school has provided support, but the best source of support have been colleagues from one's own teaching team, noted one respondent.

Challenges and Risks

When discussing challenges that the respondents have faced in making the transition from classroom to online there were some challenges with e.g. accessing some third-party communication platforms in use by some corporate partners. As the campus is closed, IT-support has been limited to online and telephone support, which unfortunately is more time and effort consuming for the teacher. For this reason, some teachers find that the change to online has been taxing for their time, and work and spare time have mixed more than before.

One noted challenge was not being in regular contact with one's colleagues. All spontaneous contacts are lacking, so discussions with colleagues must be scheduled and held over phone, Skype, Teams or Zoom.

Respondents commented that they had not been given additional time or resource to compensate the added time it took to convert classroom materials to online was not resourced. Teachers would have benefitted from having a personal online tutor to help create pedagogically diverse content, e.g. by together designing and creating an example course. In this way each teacher would gain a script that would be easy routinely to apply to future courses. The timing has been challenging in a situation where the school is pressing for more online learning into the regular curricula, while the COVID19 crisis has added workloads and increased stress levels because of this.

Results identify some risks that possibly prolonged online teaching may cause. One clear risk, regarding all online learning, was the secure identification of students participating in teaching and especially in exams. Overall cyber security was also mentioned in all situations, where content is transferred over Internet connections and it is accessed with a wide variety of devices. This is especially an issue when handling restricted project or partner data. One possible issue were online lectures by security professionals, who may not want to appear as openly online, as they would in a closed classroom.

Additionally, some home networks have had connection problems with heavy traffic, as multiple family members have been working from home. This has meant that people have shared some views from their homes. Zoom, for example, has encountered some problems where outsiders have been able to access the closed course forums.

Student Feedback and New ways of Work

The respondents reported that they had received relatively little student feedback. The few comments regarding teaching events and content have been mostly positive and supportive. For the most part courses include much of the same content and assignments as classroom classes would have. Much of the feedback from students seems normal.

Students had especially noted that supervising thesis work has worked well over Zoom meetings. Students expressed their worry that added online studies will increase students' workloads. "I have advised my students that this will change nothing, assignments will be the same as they would have been in classroom studies" (Respondent). Surprisingly some students have had challenges with their digital skills. Fortunately, the school has posted good online guidelines. In addition, the closing of the campus has limited the availability of books to online publications only, which has created some problems.

Results indicate that teachers used only some new methods and tools. For example, Zoom break-out-rooms and virtual background, and using Teams for calls was new for one respondent. However, for the most part theses teachers felt that they have not used anything new, while classroom content has been transferred online: "I rapidly created new online content, when a guest lecturer could not make it to class" (Respondent).

The results indicate that this transfer situation has forced teachers to make some rapid improvised actions and for the time being settle for good enough "Now one must do what one must, one can later change items in ways where they better support online learning" (Respondent).

Conclusions

The transition from classroom to online proved to be relatively easy for all the respondents. The main reason for this, as was stated, was that the program already had created extensive online content that could be used for a fast transition. Table 2. below, presents the main findings of study summarized and grouped by theme.

The main challenge was getting online support. In addition, the support teams work from home, so all problems and issues have to be addressed online and on the telephone. The best source of support were one's own colleagues on the teaching team, which also has to arranged by online or phone contact, due to the lack of regular contact with one's colleagues.

One issue was that the respondents reported that they lacked time and resource to compensate added time to convert materials to online, which is a management issue. The transfer situation forced teachers to make rapid and

Table 2. Main findings of study grouped by theme.

Main themes	Main findings / theme
1. Level of Preparation	− experiences vary: between Ok and easy − prior experience in building and teaching online classes has helped − the best source of support have been colleagues from one's own teaching team
2. Challenges and Risks	− IT-support limited to online / telephone support − lack of regular contact with one's colleagues − time or resource to compensate added time to convert materials to online − cyber security
3. Student Feedback and New ways of Work	− student feedback positive and supportive − transfer situation has forced teachers to make some rapid improvised actions

improvised actions, yet the student feedback was, for the most part positive and supportive. Little or no cyber security issues were reported, though they were identified as a potential problem.

Future study is recommended to better identify and address the threats against online learning environments, as well as to the effects of prolonged lack of personal contact between teacher and student. Another recommended line of inquiry is to assess how this transition has affected students' learning results. The contribution of this paper is in presenting a practical case of rapid transition from classroom to online learning.

Acknowledgements

References

1 Kirsi Aaltola and Petteri Taitto, "Utilising Experiential and Organizational Learning Theories to Improve Human Performance in Cyber Training," *Information & Security* 43, no. 2 (2019): 123-133, https://doi.org/10.11610/isij.4311.
2 Fenio Annansingh and Ali Bright, "Exploring Barriers to Effective e-Learning: Case Study of DNPA," *Interactive Technology and Smart Education* 7, no. 1 (2010): 55-65, https://doi.org/10.1108/17415651011031653.
3 Joseph Chamie, "World Population 2020: Overview," *Yale Global Online* (February 11, 2020) https://yaleglobal.yale.edu/content/world-population-2020-overview (Accessed April 11, 2020).
4 Monika Čonková, "Analysis of Perceptions of Conventional and E-Learning Education in Corporate Training," *Journal of Competitiveness* 5, no. 4 (2013): 73-97.
5 Kirsi Hyttinen, Róisín Smit, and Rowena Timms, "Soft Skills for Peacekeeping and Crisis Management Experts' Gaming for Peace Project," *Seminar publication on contemporary peace operations – from theory to practice*, *Finnish Defence Forces International Centre,* 2017, http://urn.fi/URN:NBN:fi:amk-201902212593.
6 Laurea University of Applied Sciences, "Learning by Developing," *LbD Guide* (2011), available at https://www.laurea.fi/en/document/Documents/LbD_Guide_04102011_ENG.pdf (accessed 5 July 2017).
7 Soila Lemmetty and Kaija Collin, "Self-Directed Learning as a Practice of Workplace Learning: Interpretative Repertoires of Self-Directed Learning in ICT Work," *Vocations and Learning* 13 (2020): 47–70.
8 Sumanjeet Singh, "Developing e-skills for competitiveness, growth and employment in the 21st century," *International Journal of Development Issues* 11, no. 1 (2012): 37-59, https://doi.org/10.1108/1446895121121385.
9 Jamshid Ali Turi, Yasir Javed, Shahid Bashir, Farhan Zeb Khaskhelly, Sadia Shaikh, and Hira Toheed, "Impact of Organizational Learning Factors on Organizational Learning Effectiveness through Mobile Technology," *Quality - Access to Success* 20, no. 171 (2019): 114-119.

About the Author

Harri **Ruoslahti**, PhD, is a Senior Lecturer of Security and Risk Management at Laurea University of Applied Sciences. In the ECHO project, he coordinates the task that develops toolkits for Societal Impact Assessment and E-skills and Training. https://orcid.org/0000-0001-9726-7956.