

Lessons Learnt From The Home Office: An Autoethnographic Case Study

Peter Mozelius

Department of computer and system science, Mid Sweden University, Sweden

Peter.Mozelius@miun.se

Abstract: The Corona pandemic has certainly acted as a catalyst for technology enabled and technology enhanced learning. In this paper technology enabled learning is defined as learning activities that are supported and made possible by technology, while technology enhanced learning refers to learning activities where technology has improved the quality. To what degree, and how teaching and learning activities and meetings have been transformed depends on the actual educational orchestration before the pandemic. This case story is based on experiences from courses and collaborations at a department of computer and system science. The question that guided this study was: "What are the lessons learnt from online activities at the home office during the pandemic?". This study was carried out as an autoethnographic case study with five case units: 1) A programming course 2) A course for Bachelor's thesis writing, 3) A course for system development by internship, and 4) Staff meetings and 5) Research collaborations. Results indicate that at a department where technology enabled blended synchronous learning was the standard mode already before the pandemic, the forced changes have not been that drastic. However, the course with internship and workplace learning has really suffered. The course where students have their Bachelor's thesis supervision has been much alike, while the other units show improvements that could be classified as technology enhancement. Ensemble programming online has worked very well, staff meetings have been more focused than in face-to-face mode, and the research collaborations have been efficient and with a high number of publications. Research methods seems to have changed with more literature reviews, more of email interviews and more of focus group interviews in video conference systems. The part of research that has suffered is the one with conferences, and as an example, networking at a virtual conference has been rather poor. Finally, many home offices seem to survive the pandemic due to the high and high-quality delivery from home, with the known risk of distance workers becoming workaholics.

Keywords: technology enabled learning, technology enhanced learning, educational tools, corona pandemic, autoethnographic case study

1. Introduction

Many research studies have reported on how the Corona pandemic has been a driving force for a transition to technology enabled and technology enhanced learning (Al-Ataby, A., 2020; Mozelius, 2020; Paige, 2021; Enbeyle, Ogunmola and Amin. 2022). This study defines technology enabled learning as teaching and learning activities that are supported and made possible by technology. To be compared to technology enhanced learning activities with a definition of technology that enhances and improves the learning quality. How much of transition and the actual instructional design show huge variations show huge variations due to the pre-pandemic curricula design (Crawford et al, 2020; Mozelius, 2020).

This paper has been written with an autoethnographic approach based on my experiences during the Corona pandemic. Experiences that have been compared to my pre-pandemic experiences with 20 years of teaching and research in computer and system science at various universities. The aim of the study is to analyse and discuss which best practices from the home office that are important to keep in the post-pandemic new normality.

2. Method

The autoethnographic approach to research and writing strives to systematically describe and analyse (graphy) personal experience (auto), with the aim of understanding cultural experience (ethno) (Holman Jones, 2005). This approach challenges traditional research, but at the same time opens up a new way of exploring personally experienced phenomena (Spry, 2001), In the genre of autoethnographies, researchers seek to "produce aesthetic and evocative thick descriptions of personal and interpersonal experience" (Ellis, Adams & Bochner, 2011, p. 277). Moreover, autoethnography could be conducted as a case study involving reflective, analytical and personal account of practice, that strives to find relevant aspects of professional practice. (Kinchin & Francis, 2017). This study was conducted as an autoethnographic case study with five case study units with data gathered from my personal and interpersonal experiences during the Corona pandemic. The five case units in this study were: 1) A programming course 2) A course for Bachelor's thesis writing, 3) A course for system development by

internship, and 4) Staff meetings and 5) Research collaborations. Each of these units are described one by one in separate sections here below.

3. A programming course

The programming course is a contract course by the Swedish National Agency for Education, for professional development of secondary school teachers in mathematics and technology. Course design was developed with the assumption that programming courses for secondary school teachers should have different requirements than the traditional higher education programming course. One distinction is that there ought to be a higher emphasis on didactic concepts that can be reused in the participants' own teaching and learning activities (Mozelius, 2018). This course was originally a 7,5 ECTS course, divided into five main sections: 1) Programming in school, why, what and how? 2) The fundamental building block of programming 3) Didactics for Technology and Mathematics 4) Didactics for programming education, and 5) Project work.

With the principle in work-integrated learning of facilitating for full time working professionals, the course has always been given on 25% study pace. Before the pandemic four one day onsite meetings were combined with online interactions and asynchronous activities in the virtual learning environment Moodle. After three completed course batches, this course in 2020 restructured to encompass 5 ECTS, and to have a stronger focus on textual programming. Compared to the while previous course versions that comprised multiple types programming and of programming tools. (Mozelius & Humble, 2022) To respond to the Corona pandemic, the new version of the course was restructured, from an onsite and online hybrid, to a fully online course where the videoconferencing system Zoom has replaced the earlier classroom meetings.

This shift has introduced new challenges for the course, one is the individual support teachers with less general technical skills, another is how to provide active group collaboration online. At the same time the shift to online mode only has created new flexible opportunities. In the first version of the course almost all participants were from the the Mid-Sweden region, while the redesigned online version could open up for participation from all over the Swedish nation. This has been beneficial for both for the economical sustainability, and for the course participants exchange of experience and best practices (Humble & Mozelius, 2021). Finally, and the most positive experiences group work has worked better online than earlier onsite, and the pass rates have been at the same level and sometimes higher. Problem-solving and ensemble programming activities have appeared to have a better focus and more intense collaboration given in Zoom break-out rooms, compared to the earlier course batches working with similar tasks in active learning classrooms onsite. Finally, and enjoyable, the last course evaluations have shown a higher participant satisfaction than for the earlier courses given in blended mode.

4. A course for Bachelor's thesis writing

Not much has changed in this course due to the pandemic, but there are new course literature and some extra seminars that have made a positive impact. Like before the pandemic there has been a nationwide spread of students where the vast majority take the course by distance. Looking at the last five years the average outcome is better for online students than for onsite students. The main explanation here is that students taking the course in online mode are more mature, have a better general study technique, and a higher motivation. As pointed out by (Bastalich 2015,) thesis supervision involves the delicate balance between controlling student and not blocking the idea of a thesis as a piece of independent work. This is in this course orchestrated with strict deadlines, regular online seminars, and with the supervisor taking the role of a guide rather than of a controller. What is essential are the synchronous facilitating seminars, and as highlighted by Gray and Crosta (2019), online thesis supervision needs to develop its own rules and conventions. Their recommendations of an establishment of reciprocal expectations and multi-modal feedback were created for doctoral students, but most of the brought-up ideas seems to make sense for undergraduates as well.

What I find essential are that the supervisor should be able to "to communicate effectively through the online medium", "to acquire resources generally as well as pertinent online resources", and to have "the vision and experience to see ahead, particularly in respect of potential online difficulties and strains" (Gray & Crosta, 2019, p.14). The issues of communication, guiding and to provide adequate resources are basically the same online or onsite, but the possibility of instantly sending hyperlinks to resources at online seminars is an advantage. Another thing that has worked out well online are multi-supervisor seminars for smaller groups of students, where supervisors can give various aspects of research and academic writing. Students have appreciated the supervisor dialogue where students can participate and at any time stop for questions. Moreover, the multi-

supervisor seminars included shorter mini-lectures and workshops on research methods. This was combined with single-supervisor seminars for more detailed facilitation on concrete details in the theses. For the final seminars in the last some students defended their theses on campus when the pandemic restrictions were repealed. However, most students and supervisors participated online at the final seminar as well. At the time of writing the grades are not yet set for this years Bachelor's theses, but my impression is that there are other more important success factors than the question of online or onsite. On the other hand, students living far away from the university, and students that have to work during the thesis writing got an improved supervision online during the pandemic (Chandrasena Premawardhena, 2021).

5. A course for system development by internship

Internship by distance could be seen as a contradiction, but in the field of information technology there are some successful attempts. As claimed by AlGhamdi (2022, p.329), with the appropriate online platforms and tools, *"A virtual internship today might be good preparation for the virtual/remote work of tomorrow"*. This idea could open up opportunities in the future, not least for programmes on computer and system science, but this course was designed and announced for onsite internships. During the first summer with pandemic restrictions four internships were carried out, and mainly online, but many companies withdraw their internships. On the second summer during the pandemic there were only two companies that remained, and the students were shifted to another similar course at the university's other campus.

To give a course with four teachers and two students is not a good idea, but hopefully a new course can be given next summer with a substantially larger student group. From the university side this course could easily be given online with a mix of synchronous and asynchronous activities. For companies and organisations, the shift was more problematic and there were also security restrictions to consider. As an example, some companies did not allow online activities in the Zoom video conferencing system. Future course versions will probably not be completely in online mode, but the pandemic has resulted in a richer toolbox for online collaboration that could be used for internships as well. With technology-enabled and more flexible internships companies and organisations

6. Staff meetings

The response to the pandemic has not only been about moving content online, and there has also emerged a new participatory culture among staff (Justis et al., 2020). To move staff meetings online is an idea as old as the appearance of the first video conference systems, motivated by the arguments of low cost and meeting efficiency (Raitt, 1989; Saarinen, 1996). At the same time, it has been reported that some persons get tired at online meetings and experience so called video conferencing fatigue. This might be explained by the fact that the video conferencing tools that we use today, take away non-verbal cues. When a person is visible online, your brain tries to compute the non-verbal language. When this is impossible, the brain works harder trying to achieve the impossible which could result in meeting participants feeling unnecessarily tired. The cure for online meeting fatigue, might be to build our future online meeting systems as mixed reality environments. (Wall et al., 2022)

My personal experience is that staff meetings have become more focused when shifted, compared both to face-to-face mode, and to blended synchronous mode. The agenda is followed more strictly and that the meeting time sometimes comes down to one third of the earlier meeting lengths. This could partly be explained with persons, who in face-to-face mode make lengthy comments on non-agenda issues, appears to be less talkative and less egoistic online. As reported by Richter (2020), online meetings have been perceived less political and more focussed on agenda and content. Moreover, the new online meeting culture has "led people to radically question existing face-to-face rituals like the display of power during physical meetings" (Richter, 2020, p. 3). At the university where I am working the future meeting forms are under discussion, but at some other universities the choice is to keep staff meetings in online mode.

7. Research collaborations

Online research collaborations comprise more than online meetings, and issues such as how to share data (Vejvoda, Luo & Berg, 2021), and how to analyse data collaboratively online (Schulz & Kleijweg, 2022). In one research project I have been working in, the research design could be classified as traditional, with expected field observations and face-to-face activities. Here the outcome was lower than expected with the pandemic as a negative game changer, and without any Plan B. Regarding the projects where I work with research on various aspects of technology enhanced learning the adaptation was easier with technology enabled research as the

answer. Data collection had also to be technology enabled with interviews and focus groups shifted to online mode. Another difference in research methods is the high number of literature studies conducted during the pandemic. Furthermore, the overshadowing experience is the high number of studies on the pandemic during the pandemic, not only on medical aspects of Corona/Covid-19.

Looking at the outcomes of research during the pandemic, research collaborations have been efficient and that they have resulted in a high number of publications. In a brief summary, I have seven journal articles, eight book chapters, and 22 conference papers published after the outbreak of Covid-19 in early March 2020. It can be argued that early March 2020 is not the correct start time for the pandemic, but for me it was a strong sensation of a pandemic immediately changing our research habits during those days. I was presenting two papers at a conference in Spain where several presenters did not show up, and that new hygienical routines were introduced in the middle of the session where I presented one of my papers. The conference ended without the expected networking activities, and with a flight back home to close to two years of quarantine in the home office. Virtual conferences without travel and accommodation costs have enabled to present more research papers than earlier, but sometimes with limited interaction and with poor networking opportunities. At the same time as virtual conferences have been beneficial for the environment they have not always been enjoyable.

8. Discussion

As recently brought up at a workshop on Phenomenology at a conference on networked learning (NLC, 2022), a reported pandemic phenomenon is about students attending online activities in pyjamas. This could of course be discouraging for both teachers and other course participants, and to quote the song by Frank Zappa:

"Pyjama people! Pyjama people, people! They sure do make you sleepy"

On the other hand, and as commented by a researcher on didactics at the same workshop "It is also a recurring phenomenon with students carrying 'mental pyjamas' at onsite activities". Instead of having prejudices about students automatically being active in onsite activities, and the opposite online, I find it more interesting to strive for 'onconscious' student. With the same definition of onconscious as when it is used as a slang word: 'being in an attentive state of mind'. Not necessarily in a state of flow with hyperfocus and complete immersiveness, but awake and attentive.

There is recipe for always having onconscious students in either onsite or online activities, but active learning and quality course content are the best guarantees. If activities are perceived as relevant the amount of onconsciousness will increase, independent on the communication mode, and with the same effect on all the described case units. As highlighted in many university courses on pedagogy, every student group will always be heterogeneous, and with variations in study preferences. The same variations have also been observed at staff meetings and in research groups as well.

A suggested lens for analysing variations in personality traits is the five-factor model of personality, that also has been referred to as FFM, The Big Five Model, or OCEAN (Costa & McCrae, 1992; Jackson & Soto, 2015). The last acronym is built around the first letters in the five factors or personality traits. Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism. All these factors have their corresponding counterparts, two examples are Extraversion – Intraversion, and that Neuroticism has a polar opposite in Emotional Stability (Jackson & Soto, 2015). Personality traits should not necessarily be seen as belonging to any of the two polar opposites, but rather as somewhere in a continuum there in-between. Applied to university teachers and researchers, the most positive attitudes towards online collaboration in teaching and research, would probably be found amongst individuals closer to the poles of introversion and conscientiousness. These two traits combined with a bit of agreeableness would probably form a good foundation for onconsciousness in online collaborations.

As suggested in Mozelius (2020), a suitable mix of personality traits for studying and working by distance seems to be medium openness, medium to high conscientiousness, a low or medium degree of extraversion, medium to high agreeableness and a low degree of neuroticism. Considering the heterogeneity in student groups asynchronous learning activities must be combined with synchronous ones. Two lessons learnt during the pandemic are: 1) Well-planned synchronous learning can work well and sometimes better online, and 2) The combination of synchronous and asynchronous teaching and learning is stronger than just one of them. It can be argued that 2) was a known fact even before the pandemic, but that teachers have found new ways of mixing them during the pandemic. The post-pandemic new normality will probably be *HyFlex*, where hybridity should

meet flexibility in a blend of onsite and online activities based on the same learning objects for all students. A HyFlex design that should provide participants a choice of modality to attend activities, with equivalent activities in the offered modalities (Beatty, 2019; Miller, Sellnow & Strawser, 2021). Finally, many companies and organisations have been gaining trust in that the daily work continues even when their employees are physically distant and work in online environments (Richter, 2020). An example of this is, twitter.com that have announced that their employees would be allowed to work from home forever (Paul, 2020). In a state of permanent distance work, persons with a tendency to workaholism, have easier to become addicted when connected to work through technology, and that an authoritarian leadership style in distance work created more stress, and increased the risk for workaholism. (Spagnoli et al. 2020).

9. Conclusion

The conclusion is that for me, who works at a department where technology enabled blended synchronous learning was frequently used already before the pandemic, the shift to online activities had not been that stressful and drastic. However, for several of the case units the need for new online forms have been obvious and urgent, and at the same time resulting in new creative and efficient online activities. The recommendation is that, under the umbrella of HyFlex, the lessons learnt should be gathered in new combinations of synchronous and asynchronous activities, with the aim of active learning and unconsciousness. Due to the high-quality delivery from home many home offices and new collaboration forms would probably survive the pandemic. The negative aspect is the distance workers' risk of becoming workaholics, otherwise distance working has been reported to have a positive impact on well-being, and that many distance workers want to continue to work by distance (Ärilä, 2022).

10. Future research

A next interesting step would be to develop the ideas that were presented in this autoethnographic attempt, with findings from a systematic literature on the HyFlex concept.

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