Internationalization of Teacher Education during COVID-19

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Abstract. The COVID-19 pandemic has brought obvious challenges to student and staff mobility, thus impeding internationalization abroad. The goal of the project described in this paper is to identify and implement effective teaching methods to increase internationalization at home (IaH). The context of this research is Norwegian teacher education (TED). TED students in their second-year pedagogy course at a Norwegian university participated in the project in the Fall semester 2020 and the Spring semester 2021. An action research approach was adopted as the main research approach. The action steps taken in the Fall semester 2020 (first cycle) were analyzed and revised before the implementation of adjusted action steps in the Spring semester 2021 (second cycle). The overall conclusion is that there is much potential in the digital technology for providing the opportunities for IaH. However, multiple aspects must be carefully planned for the IaH activities to be successful, such as close integration of the IaH assignments with the pedagogy course at home university, providing students with an easy access to the IaH assignments online, and taking consideration to the different academic calendars of international partner universities. The lessons learned from both cycles contribute to the revision of the action steps to be implemented in the Fall semester 2021 with the goal of increasing IaH.

Keywords: Internationalization at Home, Digitalization, Higher Education, Teacher Education.

1   Introduction

1.1   Background

Internationalization is a relatively new and broad concept in tertiary education. The most often referred to activity in internationalization is mobility, also described as "internalization abroad". In the European context, this is often linked to the ERASMUS program based on collaboration through student and faculty exchange. The other key dimension of internationalization is "internationalization at home" (IaH), which can be actualized through the internationalization of curriculum and

global citizenship development. While both components are of high importance, mobility has generally been receiving greater focus than IaH [1].

Development of technology is crucial for making IaH possible, which also requires digital competence. In teacher education (TED), the development of pedagogical digital competence for teacher students is a core issue which includes the exploration of innovative teaching methods. As partners in ITELab-project[1] from 2017-2019, the university where this research takes place worked together with higher education institutions and industry partners to foster innovation and knowledge exchange in initial/pre-service teacher education (ITE) across Europe. The ITELab-project was a Knowledge Alliance project led by European Schoolnet, and digital competence and 21st century skills were important focus areas. In the project, partners worked together to develop new course modules and a massive open online course (MOOC) for teacher students building on the competences defined in the European Framework for the Digital Competence of Educators, "*DigCompEdu*" [2]. An ITE University-ICT industry Forum was also established to work with a wider group of stakeholders.

Through collaborative online learning teacher students who participated in the ITELab activities got the opportunity to both develop their digital competence as well as broaden their professional network by collaborating and interacting with teacher students from several other countries. Padlet[2], video and social media were some of the important tools used, both in the MOOC and for collaboration outside the MOOC. Experiences from the ITELab project inspired the research team to use some of the same tools to work with IaH in a new project. Through working with digital tools including Padlet and trying out the MOOC "*The Networked Teacher – Teaching in the 21st Century*"[3], the teacher students were to develop their pedagogical digital competence as well as broaden their view of internationalization.

1.2 Aim of the Project

The COVID-19 pandemic has brought obvious challenges to student and staff mobility, thus impeding internationalization abroad. The goal of the project described in this paper is to identify and implement effective teaching methods to increase IaH at the same time as developing teacher students' pedagogical digital competence. IaH is understood as the "purposeful integration of international and intercultural dimensions into the formal and informal curriculum for all students within domestic learning environments" [3, p. 76]. The focus of the project is on the opportunities provided by digital technology for IaH, as distance education can integrate an international component without the necessity for physical mobility. While there is no data on the participation of international students in distance education initiatives, the impression is that it is rather limited [1].

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[1] http://itelab.eun.org/

[2] https://padlet.com/

[3] https://www.europeanschoolnetacademy.eu/courses/course-
   v1:ITELab+Networked_21C+2019/about

1.3 Project Participants

The project was initiated in Spring 2020, and the practical implementation has taken place in both the Fall semester 2020 and the Spring semester 2021. The context of the project is Norwegian TED. Two batches of TED students taking a second-year pedagogy course at a Norwegian university participated in the project in the Fall semester 2020 (N=98) and the Spring semester 2021 (N=89).

The research team consists of a teacher education advisor, an associate professor in foreign languages, and two associate professors in education, all employed at the same university.

2   Related Research: Internationalization at Home

IaH is one of the several types of internationalization of TED described in the research literature. Since the purpose of this paper is to describe the opportunities provided by information and communication technologies (ICT) for IaH, we do not discuss internationalization through students exchange or the internationalization of curriculum [3; 4]. The research reviewed in this section builds on earlier investigation of the internationalization of TED at home and the impact of ICT on the internationalization of TED at home.

The concept of internationalization of education was first introduced as "the process of integrating an international, intercultural, or global dimension into the teaching, research, and service functions of the institution" [4]. This definition emphasizes that internationalization is a process of professional development of both teacher students and teacher educators [5; 6]. Later, the concept of internationalization of higher education developed from the dimension of institutional interest to the very core of national interests [7]. This development of the concept highlights the increasing globalization and the growing interest in internationalized activities and intercultural communication.

The concept of IaH in higher education was introduced in 1998 at Malmö University in Sweden. IaH can be understood as a set of instruments and activities "at home" that are aimed at developing international and intercultural competencies in students [8]. IaH corresponds to activities, processes, and environmental experiences of teaching that contribute to the development of international understanding and cross-cultural, curriculum-oriented skills that prepare students to participate in a globalized world [4; 9]. It can also provide opportunities for understanding of common values between different peoples and cultures and improve education quality through mutual learning [10]. Although IaH differs from physical cross-cultural situations, its development is still influenced by the ways faculty staff perceive the concept of IaH and its relevance for the needs of their subjects [11]. Research on IaH demonstrates that university teachers play a significant role in offering students learning experiences and promote their cultural ability to learn and work in a globalized world [11; 12; 13]. IaH also fosters a culture that supports international understanding and helps overcome international time and space limitations. According to Nilsson [14], IaH is an

action-oriented practice that is realized through continuous discussions on potential obstacles faced by teaching staff and students and their specific solutions.

In a globalized world characterized by transnational mobility, employment, and migration, teachers face a need to be capable of promoting equal learning opportunities to children with different learning and behavioral challenges, as well as to those with different linguistic and cultural backgrounds. On this background, research has distinguished the need to integrate internalization dimensions in teacher preparation programs to increase teacher students' pedagogical and didactical knowledge and skills to educate children from diverse backgrounds [15].

IaH implies "purposeful integration of international and intercultural dimensions into the formal and informal curriculum for all students within domestic learning environments" [3, p. 69]. Formal curriculum refers to the planned activities that the students participate in. According to Leask [16], students must undertake this activity to fulfil their degree program. Informal curriculum refers to the various support and activities that are not formally assessed [16]. The notion of being compulsory requires that IaH involves ICT, such as e-learning platforms or MOOC, opening opportunities for innovative learning approaches, as well as boosting the establishment of international campus networks and providing students with a cross-cultural environment without having to study abroad [9; 11]. ICT enables students to share a variety of viewpoints on specific issues, thus facilitating their experiences.

Despite the numerous benefits that IaH brings to TED, it must be noted that the outcomes from intercultural activities can be challenged by contradictions between the understanding of aims of internalization of TED held by faculty staff abroad.

3 Research Approach: Action Research

Action research, i.e., an "iterative process involving researchers and practitioners acting together on a particular cycle of activities, including problem diagnosis, action intervention, and reflective learning" [17], was adopted as the main research approach in this project.

One of the benefits of action research is that this approach combines theory and practice and researchers and practitioners through reflection on a certain immediate situation, which allows for research to inform practice and practice to inform research. Action research consists of cycles of activities including such stages as problem diagnosis, action intervention, and reflective learning [17]. The iterative character of action research is one of its most recognized characteristics [18]. Action research allows for experimentation through intervention in real-world situations, as well as the reflection on the effects of this intervention. The reflection allows for making modifications to the theory and then trying it out in another iteration [17]. However, some scholars argue that reflection should not be singled out as a separate phase because reflection should occur throughout the whole process, i.e., reflection on current practices to identify areas for improvement, reflection during the phases of planning, implementation, and monitoring, and finally, ending the cycle with the reflection on the whole process as a whole [18].

Action research has been largely used in the field of education, thus giving teachers a central role in research-into-practice. Much research literature can be found in various subject areas, e.g., English language arts, mathematics, science, and social studies [19].

Action research "employs recognized research techniques to inform the action taken to improve practice" [18]. A practical guide to action research [20] is employed in this study to define certain steps to be followed in the action research process. The research team started out by reviewing the current practices and identifying the aspects that need improvement. Afterwards, a way forward was planned, tried out and evaluated (Fall semester 2020). Then, the team moved on to the next cycle, where the plan was adjusted according to the documented observations. The adjusted plan was again implemented and evaluated (Spring semester 2021). Each following cycle is to follow the same pattern, until the desired outcomes are achieved [20]. Figure 1 illustrates the activities in each cycle in a more detailed way.
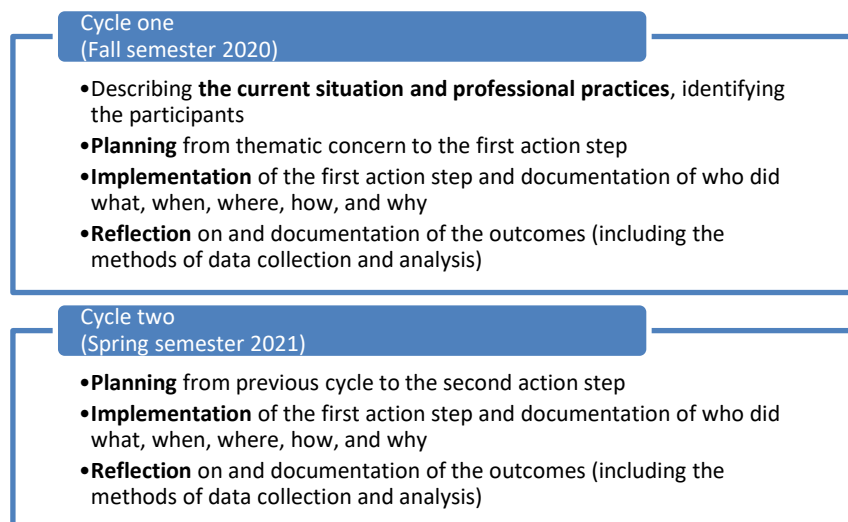
Cycle one
(Fall semester 2020)

- Describing **the current situation and professional practices**, identifying the participants
- **Planning** from thematic concern to the first action step
- **Implementation** of the first action step and documentation of who did what, when, where, how, and why
- **Reflection** on and documentation of the outcomes (including the methods of data collection and analysis)

Cycle two
(Spring semester 2021)

- **Planning** from previous cycle to the second action step
- **Implementation** of the first action step and documentation of who did what, when, where, how, and why
- **Reflection** on and documentation of the outcomes (including the methods of data collection and analysis)

Fig. 1. Illustration of the two completed cycles of action research, based on Tripp [18].

3.1 First Cycle (Fall Semester 2020)

In the Fall semester 2020, the research team planned two main sets of activities for the second-year TED students taking the pedagogy course. The first set was a hands-on workshop in the Future Classroom Lab at the university. In the workshop, the students worked on various assignments aimed at exploring digital tools to use in the classroom to foster inclusion. In the second set, the students were asked to complete selected activities from the international MOOC "*The Networked Teacher – Teaching in the 21st Century*". As indicated in the introduction, this MOOC was developed by the ITELab-project with the goal of facilitating knowledge exchange in teacher education. The course content includes video lectures and various assignments for the par-

ticipants to collaborate on, e.g., through such tools as Padlet. The students were asked to work on selected assignments two times during the semester: first, they were asked to go through two assignments individually *prior* to their visit to the Future Classroom Lab at the university. Second, they worked on two other assignments in small groups during a seminar *after* the visit to the Future Classroom Lab. In both cases, the students were asked to post their reflections on the Padlet pages which were linked to from the MOOC environment, as well as read and reflect on thoughts shared by their TED student colleagues from other countries. The students were not asked to take all the MOOC activities as not all the activities were directly relevant for the pedagogy course the students were taking, and it could easily lead to work overload. However, the students were encouraged to explore the MOOC on their own if they wished so.

The research team observed that the MOOC environment was somewhat challenging for the students to navigate. Therefore, a different approach was planned and implemented in Spring semester 2021.

3.2 Second Cycle (Spring Semester 2021)

In Spring semester 2021, the research team prepared three reflection assignments covering the topics of critical thinking, self-regulated learning, and adapted teaching. These are some of the central topics in the pedagogy course for the second-year TED students in Norway. For each of the three assignments, a password protected Padlet was created. The students were asked to post their reflections (individually or in small groups) on a Padlet after watching the video lectures on the given topic. Simultaneously, the research team members contacted some of the established international partners directly, inquiring whether they would be interested in participating in the project and sharing the reflection assignments together with the Padlet links with their TED students. The research team also created a blog introducing the internationalization project and including all the collaboration assignments. The blog is meant as a platform for showcasing the project activities and can be easily accessed by both established and potential collaborators.

Also in the Spring semester 2021 a visit to the Future Classroom Lab was planned for a similar hands-on workshop as in the Fall semester 2020. However, it did not go according to the plan due to the unstable situation with the spread of COVID-19 in the region and changing restrictions.

4 Results: Reflections and Lessons Learned

4.1 First Cycle (Fall Semester 2020)

Three of the research team members were present at the hands-on workshop in the Future Classroom Lab, assisting the students during their practical work with the assignments. The research team observed that overall, the students demonstrated a positive attitude to learning about and practicing new digital tools. However, the research team did not gather any systematic data that would demonstrate to what extent the

students used the tools in their practical period later the same semester. Therefore, the team planned for collecting more systematic feedback from the students on this matter in the Spring semester 2021.

When it comes to the MOOC assignments, the MOOC environment was experienced by the students as somewhat confusing to navigate. This had likely happened because the students were asked to work on selected assignments only, instead of following the MOOC progression from the start to the end.

As mentioned previously, the second MOOC assignment was completed by the students in small groups during a seminar session. After completing the assignment, some of the students mentioned that they perceived it interesting to read the reflections posted by teacher students from other countries. Some of the students pointed out certain similarities in the reflections across the different universities on the topic of adapted teaching. This in its turn led to a brief follow-up discussion with the rest of the class about the universal relevance of the topics covered by the students in the second-year pedagogy course. Some other students, on the opposite, pointed out the contributions which were different from their own. Namely, some of the contributions described classroom situations which seemed to differ from the Norwegian schools in terms of available technology for facilitating adapted teaching. This opened for a discussion with the rest of the class on some of the ways to adapt teaching without involving advanced technologies.

While the students were strongly encouraged to explore more of the MOOC (in addition to the selected assignments), the research team observed that this was done to a limited extent only. The team concluded that while the MOOC is highly relevant for TED students, the limited time resources, lack of tight integration of the MOOC with the pedagogy course the students were taking at the university, as well as the assignment being voluntary made the students opt out from exploring more of the MOOC. Thus, the research team designed another approach to be implemented in the Spring semester 2021. A dedicated Padlet account was created, and the tasks were posted there. The students (both at the university in Norway and partner universities abroad) received the links directly to these tasks.

4.2   Second Cycle (Spring Semester 2021)

As mentioned in Section 3.2, the planned hands-on workshop in the Future Classroom Lab did not happen according to the plan due to the COVID-19 situation in the region. Therefore, the research team had to postpone this part of the project until the Fall Semester 2021.

Nevertheless, the three reflection assignments on the topics of critical thinking, self-regulated learning, and adapted teaching were distributed to the students. The students received the link to each of the assignments the same day they had a video lecture on the corresponding topic in the pedagogy course they were taking at the university. However, the overall number of contributions on the Padlet pages observed by the research team was limited. The research team concluded that this could have been caused by two major reasons. The first reason is a non-compulsory character of the reflection assignment and the fact that the task was given in connection with

the asynchronous video lectures (and not during synchronous sessions). There are rather strict regulations in the Norwegian TED on how much compulsory work a TED teacher can require from the students. Nevertheless, the participation in such reflection assignments can be increased if the assignments are completed in small groups during the synchronous sessions. Secondly, an important challenge in the collaboration activities involving partners from different international institutions is the different academic calendars of the different countries involved. This may lead to students responding to the shared tasks at different points of time, supposedly decreasing motivation and curiosity of those who participate first (in this case, the Norwegian TED students), when there are not so many contributions from others. Thus, it is important to discuss the time frame for asynchronous participation in the different shared activities with each international institution involved.

4.3   Reflections on the Research Approach

While the action research approach was in general perceived by the research team as an appropriate choice in this project, allowing for several iterative rounds of planning, implementation, and evaluation, there are certain aspects that must be carefully considered for the approach to bring the best possible results.

One of the challenges studying teaching practice through action research is the traditional definition of education research which separates two communities. On the one side, there is a research community responsible for rigorous research designs which often imply randomized samples and experimental setups. On the other hand, there is a practice community, which includes the practitioners themselves, including teachers [19]. In the present research team, two of the members shared the roles of the researcher and practitioner (i.e., teaching the pedagogy course to the students who participated in the IaH activities), which could have made the role division somewhat blurred. It is important to be aware of potential biases in action research [21]. Thus, the planning, as well as the discussions and reflections on the process were carried out in the team including all four members. This helped ensure that both the "insider" and "outsider" perspectives were present when evaluating the implemented activities.

Another crucial issue is ethical considerations. During the first two cycles of the action research process, the research team did not carry out systematic data collection from the student group participating in the project. All the discussion, reflections, and evaluations were carried out on the background of the research team members' general observations of the teaching and learning process during the semester and interactions with the students in the seminar sessions. While this approached allowed the team to make general observations and conclusions, as well as keep the anonymity of the student group, the research team considers it necessary to plan for a more systematic data collection in the future cycles of the project, both in terms of collecting data through the observation of the learning process (e.g., developing an observation protocol to be used in seminar sessions, or criteria for assessing Padlet contributions) and the feedback from the participating students (e.g., a student survey, or an interview with selected students). This will imply providing a more detailed information to the students about the project and getting the participants' informed consent.

5   Next Steps: Third Cycle

It is planned for the project to continue in the academic year 2021-2022, both in the Fall semester 2021 and the Spring semester 2022. Following the process of action research outlined above, to optimize the potential of digital technology in providing the opportunities for IaH and developing students' digital competence, the lessons learned from the first two cycles will be included in the planning and implementation of the next steps in the Fall semester 2021 (third cycle).

First, the international collaboration assignments will be further adjusted to even better integrate with the topics covered in the second-year pedagogy course. The research team considers suggesting that students should work with the assignments during synchronous session, with the aim to increase participation. It is more probable that this way the international collaboration tasks will be experienced as a more natural part of the course progression. Another approach could be integrating the international collaboration tasks in one of the compulsory assignments or connecting the tasks to the practical activities students work with on campus. It could also be fruitful to integrate the presentation of the MOOC as one of the activities in the hands-on workshop in the Future Classroom Lab. Second, the team will search for effective ways to better align the distribution of assignments with the different academic calendars of the participating international partner universities. Third, the research team will plan for a systematic data collection from the participating student group.

Another aspect that could potentially have been perceived as a challenge by the participating students is the language barrier (the students were asked to complete the project assignments in English), despite the generally high level of English competence among Norwegian youth. The research team has therefore concluded that it is important to formulate reflection tasks in a way that would not add much extra cognitive load to the students in terms of formulating their thoughts in a foreign language.

6   Conclusion

This paper presents preliminary results of an action research project whose aim is to identify and implement effective teaching methods to increase IaH in the context of Norwegian TED. The project was initiated in Spring 2020, and the practical implementation has taken place in both the Fall semester 2020 and the Spring semester 2021, involving two batches of TED students taking a second-year pedagogy course at a university in Norway.

Preliminary results demonstrate that there is much potential in digital technology for providing invaluable opportunities for IaH and developing students' digital competence. At the same time, the research team identified several aspects that must be carefully planned to for the IaH activities to be successful. Some examples are close integration of the IaH assignments with the pedagogy course at home university, providing students with an easy access to the IaH assignments online, and taking consideration to the different academic calendars of international partner universities participating in the shared collaboration activities.

The project will continue in the academic year 2021-2022, both in the Fall semester 2021 (third cycle) and the Spring semester 2022 (fourth cycle), and the lessons learned from the first two cycles will be included in the planning and implementation of the next steps.

It is also important to note that the novelty of international activities in the context of Norwegian TED may have been a challenge in itself. Earlier reports demonstrate little international focus in the Norwegian education research, main research collaboration partners being the rest of the Nordic countries and English-speaking countries (namely, UK and US) [22]. The current national strategy for TED has a clear focus on including more international education research and collaboration in future Norwegian TED [23], which emphasizes the importance of finding appropriate ways to integrate IaH activities in the Norwegian TED.

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