Solving Diversity Issues in University Staff Training with UNIPS Pedagogical Online Courses

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Abstract— In Finland and globally, many university teachers are teaching without pedagogical training. Employee training courses on pedagogy are offered via contact teaching, thus excluding potential students who are too busy to attend sessions at a specific time and place. In addition, majority of teaching is in Finnish, even though, for example, in the University of Turku, 10% of all employees are international. Due to limited teaching resources, university pedagogical studies used to be only available for university staff members who have teaching duties, excluding the majority of doctoral students from the courses. The UNIPS learning platform, developed by eight Finnish universities, was created to solve these problems. The current study investigates the impact UNIPS solution has on the above mentioned issues by looking quantitatively (N=590) at (1) which departments participants come from? (2) Are participants' doctoral students or university employees and (3) what are the age and gender distributions of participants? In addition, participants' perceptions of UNIPS studies are analyzed qualitatively. Based on the findings, UNIPS courses and similar MOOCs seem a promising way to support teachers' pedagogical training. They can not only increase the diversity of offered studies, but also help create a more inclusive environment at universities.

Keywords— university pedagogy, MOOC, employee training, online learning, staff development

I. INTRODUCTION

Universities are by design international and diverse places to work. For example, University of Turku in Finland has staff from over 60 countries and 10% of all staff hold a citizenship other than Finland's [1,2]. Internationality and diversity have multiple benefits, both direct and indirect, from research collaboration to support students' entrepreneurship [3,4]. The diverse workforce of universities needs to have lifelong learning opportunities in order to stay up to date in a rapidly changing society, to be able to teach and educate future generations effectively [5,6]. Especially the importance of pedagogical training for university teachers has been highlighted [2].

By offering employee training courses on pedagogy to members from all departments and faculties and to all ages, genders and nationalities, a university takes a concrete step towards creating and maintaining an inclusive and diverse workforce. In Finland, all universities are able to provide at least some pedagogical training for their teachers [7], which is globally rare. Yet, even in Finland, traditional university pedagogy courses exclude most international staff as they are offered only in Finnish, and due to limited resources, cannot be offered to doctoral students either. Therefore, there has long been an urgent need for cost-effective university pedagogical courses in English with distance learning possibilities. As previous studies have found that online pedagogical studies such as MOOCs or accessing electronic materials can have positive effects on employees' pedagogical skills [8,9], the development and related work on a university pedagogical online learning platform called UNIPS (University Pedagogical Support) started in 2015, in Finland. The platform is being developed in collaboration with eight Finnish Universities, and by year 2019, UNIPS online courses have become well known and popular in many Finnish universities.

The current study investigates the diversity of students who are using the UNIPS platform, and explores how MOOCs, such as courses offered via UNIPS, can increase diversity and inclusion at universities. To assess the success of the UNIPS platform, the following research question is proposed: "In what ways, if any, has UNIPS managed to increase the participation and diversity of students in university pedagogical teaching?" To answer the research question, the UNIPS solution is evaluated based on how it addresses the three challenges that have been identified in university pedagogics education in Finland: (1) Teaching has only been available in Finnish (excluding most of the international staff members), (2) courses have been available only to a limited amount of participants and only to university staff with teaching duties (excluding most of the doctoral students), and (3) courses have been available only as contact teaching (excluding many potential participants with busy schedules).

II. BACKGROUND

A. Diversity of University students

The amount of "non-traditional students" is increasing in higher education and internationalization and diversity have become trends in educational institutions [10,11]. The popularity of MOOCs and online learning has simultaneously increased, and distance education provides possibilities to arrange courses for wider and more diverse student groups, also in other countries [12]. Increasing diversity of students is now a goal of higher education institutions, and many of them have begun to emphasize diversity in student recruitment [13]. The changing society and growing diversity of students requires university teachers to rethink their teaching and as Messiou and Ainscow [14] state, *"learning how to* learn *from differences"* is now an essential part of teachers' professional development. Due to the increased diversity of students, it follows naturally that also the teaching staff at universities grows more diverse, which also means more and more official communication in English instead of local native languages [15]. University staff, for example in Taiwan, have positive attitudes towards the English language, but still slightly prefer native speaker models [16]. Despite the growing demand to update employee training courses from native languages to English for increased inclusion, the process is often slow. In Europe, most institutions are solving these issues with MOOCs [17].

B. Increasing Diversity of University Pedagogical studies

Currently, university pedagogical studies face two issues: 1) the amount of people and the diversity of their backgrounds who want to participate in university pedagogical education has grown and 2) there is a growing need to expand both the repertoire of the contents and ways of studying pedagogical courses. In the last decade informal online communities and networks have emerged providing new opportunities for learning and knowledge creation [18] and a lot of collegial support has been found also through social media channels, which can be harnessed in collaboratively creating online courses and MOOCs [19,20]

Providing employee training courses by utilizing MOOCs has been successful [21,22] and therefore it is feasible to offer university pedagogy courses online as MOOCs was well. Previous studies on professional teacher development MOOCs have shown promising results [23,24, 25,26]. Also archived MOOCs have been utilized in teacher education, by using the MOOC materials as part of a regular teaching [27]. These examples highlight that MOOCs can be utilized to enhance the diversity of offered university pedagogical studies in at least two ways, by (1) providing fully online courses and (2) in offering pedagogical online materials to be used in, for example, flipped learning and active learning [28].

C. Teamwork and Feeling of Inclusion in MOOCs

Teamwork and collaborative knowledge building are important elements in pedagogical courses [29]. Participants' age and educational diversity have been found to be beneficial for teamwork when the need for cognition is high [30]. Online teamwork can also be utilized in supporting co-constructing and knowledge sharing within small groups [31] as well as developing a shared understanding of concepts [32]. Taking students´ along into the knowledge creating processes increases the sense of social presence which is related to students´ satisfaction and learning, especially in online environments [33]. Collegial support is not only valued and important for new faculty, but also a crucial factor in their academic success [34,35,36]. However, previous research has shown that lack of collegial support is a rather typical feature in academic life [37,38,39].

The feeling of academic isolation commonly experienced by early career academics can be reduced by giving MOOC and online course participants an opportunity to discuss about the topics of the courses with fellow students [40]. Attempts to bring the benefits of collaboration and teamwork to MOOCs have been made, by, for example, adding discussion forums to the courses [41,42,43] with positive results. Diversity in these discussions has been linked to students' sense of belonging, adding to a feeling of inclusion, which is especially important to foreign doctoral students who are new to the country [44]. To conclude, adding group work phases and discussion forums to MOOCs serves two purposes, to give participants (1) a sense of community and (2) a possibility for collegial support.

III. RESEARCH DESIGN

In order to evaluate the impact UNIPS courses have had on the diversity of offered studies and university pedagogical education in Finland, the following factors were considered: (i) How many students have completed UNIPS courses and which faculties students come from? (ii) What are the age and gender distributions of students? (iii) What is the geographical distribution of students? (iv) What are the students' own experiences regarding the UNIPS courses? and (v) Why did participants choose to study UNIPS modules?

Both quantitative and qualitative data were utilized in the current study. Between late 2015 and spring 2019, when UNIPS courses have operated, 590 students have enrolled in the courses, of which 380 of them have completed course(s). In some questionnaires certain questions were voluntary, which is why the *n* on, for example, the age and gender Figures are different.

IV. RESULTS

During the period of December 2015 - May 2019, 849 study credits (ECTS) were completed via the UNIPS platform by 380 unique participants. Altogether, 590 individual students enrolled and the dropout rates ranged from 30% to 40% [25]. During the years 2015-2018 all course participants, of whom data was collected, were university employees and doctoral students at University of Turku. This was because the platform was based on a previous online learning solution developed there. As developing the platform continued in collaboration with other universities, the UNIPS courses opened to the other seven partner universities in 2019. At the same time, new courses have been created and published to the UNIPS platform in collaboration with the partner universities. UNIPS courses opened to wider use in 2019, and the geographical distribution data is collected only since then. Currently, the enrollment for UNIPS courses is open three times per year, with up to 140 students accepted at a time for studies. In comparison, the "traditional" university pedagogy

education in the University of Turku currently accepts 12-25 students twice per year to a 10 credit point basic course.

A. *Which faculties students come from?*

In Finland, a faculty refers to a large body inside a university, which is based on the discipline it teaches. In Figure 1, the seven largest faculties are recorded. The highest number of participants were from the faculty of medicine, which amounts to almost one third (27%) of all UNIPS students. Many participants also came from the faculties of science and engineering (20,7 %) and humanities (17,1 %). The faculty of law had least enrollments (3,4 %). The number of enrolled participants from the faculties of social sciences (8 %), economics (7,6 %) and education (6,6 %) were also relatively small. The results show that employees in all faculties were are interested in pedagogical studies, and that the intellectual diversity based on discipline is high. Especially in the teamwork period of UNIPS courses this helps, as intellectual diversity has been found to correlate positively with beneficial group discussions when a high level of cognition is required [30].

When observing the employment status of UNIPS course participants during the time period of autumn 2016-spring 2019, 74,9 % of all enrolled participants were doctoral students. The distribution of groups was quite similar when comparing the groups by faculties, as shown in Figure 2. The percentage of university employees was the highest in the faculty of social sciences (34 %) and the lowest in the faculty of humanities (9,9 %).
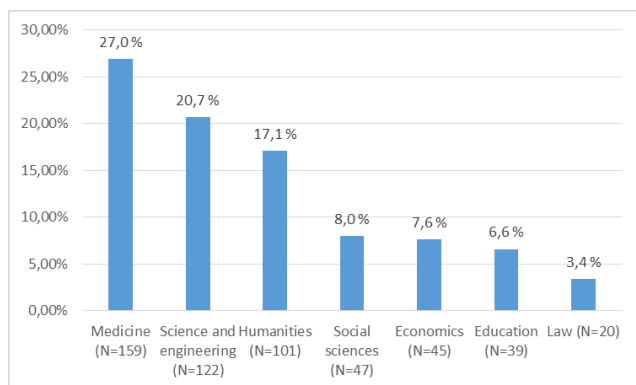

Fig. 1. The faculty/department of participants who enrolled into UNIPS course(s) autumn 2016-spring 2019.
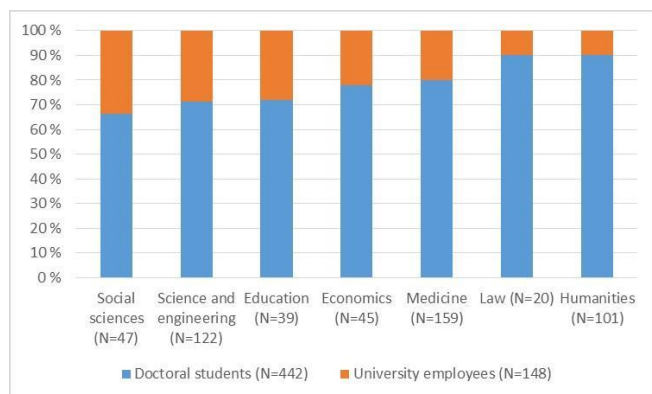

Fig. 2. Percentage value of doctoral students and University employees who have enrolled into UNIPS course(s) in autumn 2016-spring 2019.

B. *The age and gender distributions of students*

Previous studies on MOOCs have reported the age distribution to heavily favor younger people [45,46] and, for example, in a study from 2014 77% of all students were under 40 years old [47]. However, as UNIPS offers employee training courses, and only accepts university employees and doctoral students, the hypothesis was that the average age of students should be older and the distribution of students more even. With regards to gender, the hypothesis was that gender should not play a role in who applies to and studies employee training courses.

The age of 394 UNIPS participants during the time period of 2017-2019, are shown in Figure 3. Younger learners, below the age of 26, are represented only by two doctoral students, even though in other MOOCs they are the most popular group of students [45,46]. Doctoral students who completed UNIPS modules had a mean age of 36 and a median age of 34, whereas university employees on the other hand, had a mean age of 41 and a median age of 40. Even though the mean ages are not surprising, the hypothesis regarding the form of the distribution did not hold. Contrary to what was expected, the ages of UNIPS participants followed quite nicely the standard distribution model instead of a more even distribution. The lack of older students (>50 years) might be because one or more of the following reasons: (1) They feel they have no need for employee training courses (2) They are unfamiliar with online courses (3) They already have completed some university pedagogical courses in the past or (4) They hold such positions at the university, for example, full professor, that they simply do not have time even for short online courses.

During the years 2017-2019, 62,2% of all UNIPS participants (*N*=590) were women (*n*=420). When analysing this statistic in light of the fact that most students were from the faculties of medicine and science and engineering, it is interesting that women are so strongly represented, as STEM fields have been reported to feature more men in general [48]. However, other teacher training MOOCs besides UNIPS had more women in comparison as well, for example, in a study from 2015 56,5 % were women[46], and in University of Turku, from where most UNIPS participants are from, 59% of all personnel are women [1]. The results can most likely be explained via these statistics. Finally, no significant correlation was found between gender and employment status, or gender and the likelihood of passing one or several UNIPS modules.
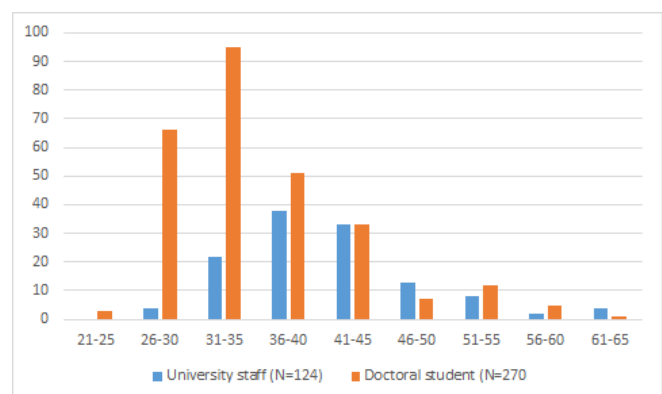

Fig. 3. Age distribution of UNIPS course participants

C. Geographical distribution of UNIPS students

Figure 4 depicts the geographical distribution of enrolled students across Finland in the UNIPS courses organised in spring 2019 (*n*=131, of whom 75 completed the course(s)). Besides *University of Turku*, the UNIPS courses were available for all other partner universities, which were *Aalto University*, *Hanken School of Economics*, *University of Jyväskylä*, *Lappeenranta University of Technology*, *University of Oulu*, *Tampere University* and *University of Eastern Finland*. *University of Oulu* was the only university from the UNIPS partner universities, which did not have any participants in the courses. The data does not account for where students actually were while completing the courses, only where the campus of the university they work for is located. In addition to the spring 2019 modules depicted here, various UNIPS modules are being organized independently by the partner universities.

In addition to the officially organized courses, UNIPS materials are open and free for everyone around the world. As per Google Analytics used for the website UNIPS.fi, 58% of visitors are from Finland. The second and third most popular countries in terms of number of visits are currently (July, 2019) the United States (5,7 %) and India (5,2 %). Some of the visits might have been webcrawlers, bots or other automated software, and therefore this statistic might not be very reliable.
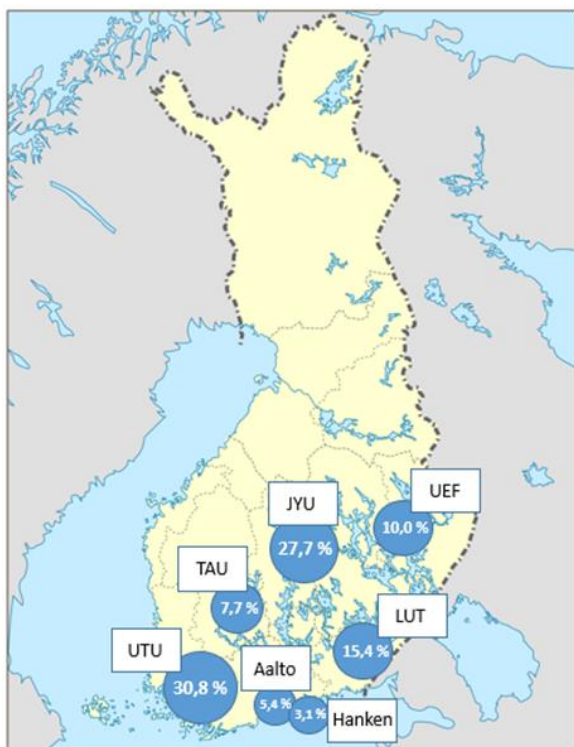

Fig. 4. Showing the home universities of UNIPS students in the spring 2019 modules.

D. Students' perceptions of UNIPS courses

UNIPS students of spring 2019 were asked to respond to a feedback questionnaire concerning their perceptions of the UNIPS courses. Answering was voluntary and anonymous. About half (*n*=38) of the students who completed the modules in spring 2019, (*n*=75) responded to the questionnaire. The analysis revealed that the general feeling of students was positive, and almost all of them (92,1 %) reported that they would prefer to study university pedagogy with UNIPS modules in the future. The same amount of participants reported that they would also recommend the modules to their colleagues. The participants were also asked to explain the reasons why they would or would not recommend the modules. The answers were read and categorized and the reasons are presented by categories at Figure 5.

As Figure 5 shows, some of the participants (16,7 %) would recommend the modules because they saw them a time-efficient way to study university pedagogy. This supports the assumption that university teachers would appreciate the possibility to study online because of their busy schedules. Some participants also mentioned that as a reason why they prefer to study UNIPS modules in the future. In light of these results, it looks like UNIPS modules have managed to increase teachers' possibilities to participate in university pedagogical courses. Teachers wrote for example:

"I would study more with the UNIPS modules. Mostly because face-to-face teaching isn't something I can do at the moment."

"I would definitely continue to study through UNIPS! The system works quite well and since the course is organized as distant teaching, I can design my timetables to fit the course schedules."

"Yes. Especially if it is organised online. To combine face-to-face pedagogy training with my present workload would be difficult. But with the online courses, I can always juggle them."
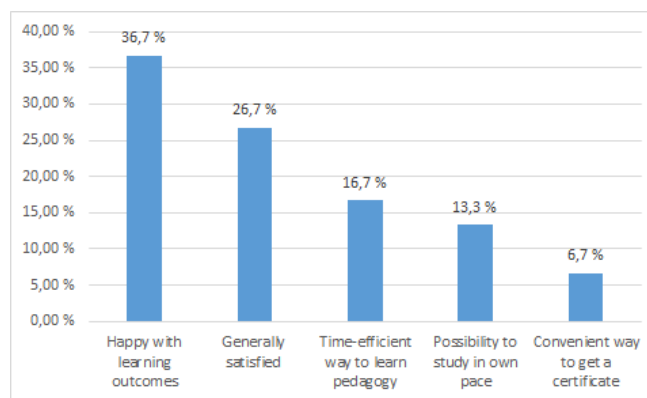

Fig. 5. Reasons why participants would recommend the modules to their colleagues.

Some of the teachers emphasised the possibility to study at their own pace, which may refer to the same phenomena. Thus, supporting the assumption that some of the UNIPS students would not participate in courses that relied on contact teaching. On the other hand, three of the participants who answered the questionnaire (7,9 %) reported that they would prefer face-to-face teaching over online teaching. Two of them gave explanations:

"I would prefer online modules combined a bit with face-to-face meetings where it would be possible to discuss different ideas."

"I am taking another UNIPS course, however, I think that face-to-face courses may have been more useful while at the same time more time-consuming."

The participants were also asked which part of the module(s) they found the most useful for their own studies and why. The most common answer given by 44,7 % of the respondents (*n*=38), was the teamwork phase or interaction with their peers. This finding is promising from the inclusion standpoint, as previous studies have mentioned interaction with peers to be important in reducing the feeling of academic isolation [40] and in increasing a sense of inclusion [44].

E. Why students have chosen to study online?

Participants (*n*=38) were also asked in the final questionnaire, why they chose to participate in the online modules. Participants were able to choose more than one option and their answers are displayed in Figure 6. The most common reason was that face-to-face course on the topic was not available hinting that participants (42,1 %) still prefer contact teaching. However, the second most common reason was the polar opposite, that participants (36,8 %) felt online courses were more convenient. Almost one fourth (23,7 %) of the participants said they preferred to study in their own pace, which is a commonly mentioned advantage when all the learning happens online. Almost the same amount of participants (18,4 %) replied they chose UNIPS courses because they could not attend face-to-face teaching, which means UNIPS has managed to reach people who could not participate in traditional university pedagogical training. Finally, there were some participants (13,2 %) who reported they enrolled to the UNIPS modules to receive ideas for designing their own online courses. This is an interesting finding and shows that a portion of university lecturers are seeking to learn the skills to teach online courses, which correlates with the increasing popularity of online learning and MOOCs.
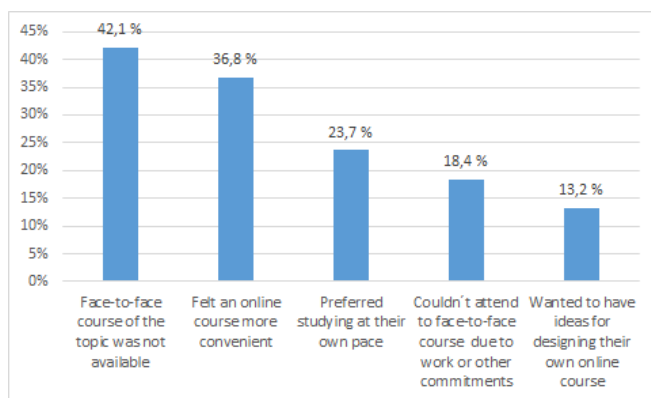

Fig. 6. Students´ (*n*=38) reasons to participate in UNIPS online modules in spring 2019

V. DISCUSSION AND CONCLUSIONS

The findings of this study suggests that the UNIPS learning environment managed to increase 1) *the diversity of students* and 2) *the diversity of offered studies* in the field of University pedagogy in Finland. The first one refers especially to doctoral students who previously had no opportunities to study university pedagogy if they did not have teaching duties at the university. It also applies to

international staff members who could not participate in the studies due to language limitations (the studies were organised only in Finnish). In addition, almost one fifth of students who replied to the final questionnaire in spring 2019, said they chose UNIPS courses because they could not attend face-to-face teaching. Finally, partner universities with no experise on certain university pedagogical topics can now offer courses on those topics via UNIPS. UNIPS and similar MOOCs can therefore not only increase the diversity of offered employee training courses, but also provide them to busy staff members, to non-native speakers and to doctoral students, thus supporting an inclusive workplace atmosphere and diversity.

As university pedagogical courses, UNIPS modules are not capable of fully replacing contact teaching. This is evident from, for example, the student feedback form where 41,1% replied they attended UNIPS modules because contact teaching on the topic was not available. The role and intent of UNIPS was never to replace contact teaching, but rather diversify existing selection of university pedagogy studies, to provide better opportunities for non-native speakers, those with busy schedules and to doctoral students. Because of the huge amount of international UNIPS participants who have completed all the provided modules, there has become an urgent need to organize also larger university pedagogical studies in English. This was immediately put in practice, and the first group of UNIPS students completed a 10 ECTS study course in spring 2019, which included face-to-face teaching in English. With opportunities and solutions of flipped learning and active learning [28], UNIPS materials have also been opened to everyone to study freely, to be used as part of traditional courses or as self study materials [25].

A. Limitations

Because data for the current study was collected over the course of several years of piloting and testing, the amount of participants on some statistics remained relatively small. In addition, impact on inclusion and diversity, costs, reachability and pedagogical effectiveness of UNIPS courses could not be rigorously compared to alternative solutions. Therefore, even if the current study shows UNIPS managed to increase inclusivity of offered studies, similar outcomes could have been obtained via other solutions as well. Finally, as data for the current study was collected from participants from Finland, it remains unclear whether similar outcomes would emerge in other countries.

B. Future work

The teamwork phase of the course was perceived to be important by students, however, in the future a more rigorous analysis is needed of its impact on creating and sustaining an inclusive atmosphere. In addition, the impact of pedagogical employee training courses for teachers on their students' learning could be studied, by, for example, measuring student satisfaction levels or learning outcomes relative to those students whose teachers have not studied any pedagogical courses.

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