

Change in University Pedagogical Culture – The Impact of Increased Pedagogical Training on First Teaching Experiences

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Abstract. This study aims to explore whether the increase in pedagogical training has had any effect on new teachers' experiences. We consider first teaching experiences to be crucial for a teacher's career and the development of the environment's pedagogical culture. We hypothesised that even if new faculty begin their teaching career without any formal pedagogical training, due to the changed pedagogical culture within faculties, they receive more support from their colleagues than their peers did 10 or 20 years ago. In this study, teachers with different amounts of teaching experience were asked to describe their first teaching experiences to get an overall picture of topical issues (Study A). Then, a larger sample was collected to shed more light on the assumed change in teaching cultures (Study B). According to the results, the majority (63.6%) of novice teachers with 0 to 4 years of teaching experience did not have pedagogical training. However, the amount of aid that novice teachers received from their colleagues was higher among those who had recently begun their careers compared to more experienced teachers, suggesting a change in teaching cultures. Novice teachers' experience that teaching interferes with their research indicates that the changes in pedagogical culture are only partial, leaving the professional identity underdeveloped.

Keywords: new faculty; early-career academics; pedagogical training; pedagogical culture; professional identity

1. Introduction

While academics are often well prepared for research roles, many begin their teaching careers without any training in teaching (Brownell & Tanner, 2012; Kane, Sandretto, & Heath, 2002; Knight, 2002; Remmik, Karm, Haamer, & Lepp, 2011). The classical work of Boice (1991) illustrated the problems of a novice teacher:

there is no official help (e.g., education) to prepare for teaching, collegial support is mostly missing and teaching preparation takes too much work time. The absence of pedagogical guidance combined with limited time drives many new teachers to copy their former teachers' style (Knight, 2002), despite believing that the style might not be the most effective way to teach or learn. This perpetuates a cycle wherein new teachers reproduce a pedagogical culture that does not help their students, who will later become the next generation of teachers.

The first teaching task may come at short notice, but it may also be a surprise to doctoral students who have been recruited as researchers, without a notion of teaching tasks in the contract. Thus, they might not be aware that working at a university usually includes teaching. Therefore, changes in their conceptions concerning a researcher's job are needed. It is also possible that some academics aiming for a research career deliberately do not consider teaching to be part of their professional identity (Brownell & Tanner, 2012). Therefore, change may be necessary regarding the personal conception of professional identity, which may not be easy (Vermunt, Vrieki, Warwick, & Mercer, 2017). Insufficient training, time and incentives are the traditional obstacles to a cultural change in pedagogy, but Brownell and Tanner (2012) suggested that professional identity is also a crucial factor. This study explores how new Finnish university teachers experienced the beginning of their teaching careers, what identity-related assumptions they had about a teacher's job and whether there can be seen any change in the culture compared to their more experienced peers.

Pedagogical culture in the university

Universities have been for some time and still are in some countries (such as Finland), educational institutes where one can teach without any formal teacher training. This convention harkens back to the Humboldtian tradition, according to which education happens through taking part in research (e.g., Simons, 2006). Teachers are seen as qualified to teach because they are experts in research (Gillespie & Robertson, 2010, pp. 9–10). It is questionable whether the Humboldtian model has ever actually existed in universities (e.g., Robertson, 2007), but it is clear that the massification of higher education has set barriers for the execution of the Humboldtian ideal (Simons & Elen, 2007). When a university crams hundreds of students into a lecture hall to make teaching more cost-efficient, this might hamper the teacher's aim to provide them with education through research.

Currently, there is an urgent need to modernise higher education and improve the quality of teaching (e.g., European Commission, 2016; Hanbury, Prosser, & Rickinson, 2008). University teacher development programmes have become increasingly more organised over the past 40 years (Chalmers & Gardiner, 2015). In some European countries, such as Norway, Sweden and the United Kingdom, pedagogical training of university teachers is mandatory (Chalmers & Gardiner, 2015; Gibbs & Coffey, 2004). In many countries, however, attending pedagogical training is still voluntary. In Finland, pedagogical training has been systematically organised in its current form since the mid-1990s. Currently, all Finnish universities offer pedagogical courses up to 60 European Credit Transfer and

Accumulation System (ECTS) credits for their teachers, but in few universities are these studies obligatory, and if they are, only 10 to 25 ECTS credits are required (Murtonen & Ponsiluoma, 2014). The problem with pedagogical courses is that they are often available only for those staff members who already teach at the university, leaving out doctoral students. Thus, these students begin their teaching careers without pedagogical training.

While formal support such as pedagogical training is often missing, there are possibilities for new teachers to receive collegial support regarding pedagogical questions. Help and emotional support from other teachers at the critical moment could at least partly cover the need for pedagogical training. Research, however, shows that spontaneous collegial support is not typical, and, instead, the lack of collegial support has been an integral part of academic life (e.g., Cipriano & Buller, 2012). According to Sorcinelli (1988), new faculty reported a lack of collegial relations as the most surprising and disappointing aspect of their first year. Further, in a study by Ambrose, Huston and Norman (2005), over one-third of the faculty members felt unsupported by their colleagues and the institution.

Recent studies show that collegial support is highly valued and desired by new faculty, and it is also a remarkable factor in their success (Clarke & Reid, 2013; Stupnisky, Weaver-Hightower, & Kartoshkina, 2015). Pedagogical training emphasises the role of collegial collaboration and thus aims to foster the development of a pedagogical culture. Pedagogical courses may help in creating communities of practice that enable university teachers to contemplate and discuss their teaching with colleagues and reduce academic isolation (Lave & Wenger, 1991; Remmik et al., 2011).

While repeating the old teaching culture without any pedagogical reflection may be problematic (Knight, 2002), more experienced teachers can also serve as positive role models. Oleson and Hora (2014) pointed out that teachers should acknowledge and build upon older faculty's cultural knowledge regarding students' learning as well as their disciplinary understanding of the values, codes of conduct and epistemological views in the domain.

First teaching experience and professional identity

Similar to students' first-year experiences, which are crucial for the success of their studies (Naylor, Baik, & Arkoudis, 2018), early-career academics' experiences are essential for their careers (Hollywood, McCarthy, Spencely & Winstone, 2019). University teachers' careers can begin in numerous ways. One of the most common is when a doctoral candidate who has been recruited for a research project is asked to teach. Sometimes, the first teaching assignment can be assigned suddenly, and thus time and help with preparation may be limited. Novice teachers at the university often hold a double role, since as doctoral students, they are still studying (e.g., Remmik, Karm, & Lepp, 2013). This double role of a teacher and a student may cause extra tension and confusion regarding which group they belong. Further, it may create problems in relationships and communication within the faculty (Åkerlind & McAlpine, 2010). The novice teachers' conceptions about the job as a faculty member may not match the reality, which may cause

tensions in the workplace. Further, throughout the early stages of the academic career, university teachers might find that a teaching role conflicts with their other goals, such as being an excellent researcher and working towards one's career in the higher education sector (e.g., Fanghanel & Trowler 2008; Wosnitza, Helker, & Lohbeck, 2014). University reward systems may also have an impact on this issue. The perceived value of teaching recognition seems to remain overshadowed by research accomplishments (Alpay & Verschoor, 2014).

Being a new university teacher is emotionally and motivationally demanding (cf. Rodriguez & Mogarro, 2019). Learning to teach appears to include more than learning the subject matter, pedagogical content knowledge, theories of teaching and learning, and skills to turn that into practice; rather, it is an identity making process (Beijaard, 2019). To build a strong teaching identity, teachers must deliberately develop their teaching skills and role among the faculty (van Eekelen, Boshuizen, & Vermunt, 2005). They may avoid teaching tasks because they doubt their abilities as a teacher, which may manifest as low motivation or poor self-esteem. Teachers' self-efficacy beliefs about their teaching capabilities may vary according to the discipline (Lindblom-Ylänne, Trigwell, Nevgi, & Ashwin, 2006), but there is also individual variation. Teachers may think that they are not capable of teaching for innate reasons (i.e., that they were not born to be a teacher). Pedagogical guidance helps a teacher to understand that teaching is a skill that can be developed, not an innate trait. Also, building motivation to teach is very important; for example, if a researcher has not considered teaching to be part of his or her work.

Sometimes, the teacher identity can be missing from the researcher's professional identity, causing friction when a researcher is asked to teach. Further, the scientific community or 'tribes' within academia may even act negatively towards its members' intentions to develop teaching skills (Becher & Trowler, 2001; Brownell & Tanner, 2012). This kind of negativity is a sign of an academic culture that does not value teaching very highly. Additionally, the entire university may hold practices that do not foster the development of pedagogical culture, such as not crediting teaching qualifications in the recruitment processes. It is peculiar that universities boast high-quality teaching, but at the same time, teaching jobs are often short term. Cross and Goldenberg (2009) found in their study that nobody seemed to know which members of faculty taught undergraduates or what their employment arrangements were. Thus, it appears that the university teachers form a heterogeneous group, and little is known regarding the quality of teaching that students receive due to a lack of pedagogical qualification requirements. A short-term job may also negatively affect teachers' motivations and opportunities to develop their pedagogical skills.

Aim of the study

In this study, we conceptualise pedagogical culture to include both teachers' perceived support and their professional identities (Figure 1). Perceived support includes organised pedagogical training, receiving any other type of help and allocating adequate time to prepare the first teaching task. We assume that if the pedagogical culture changes, these factors will increase (i.e., better-trained

teachers, a more supportive environment and more time to prepare first teaching tasks). Professional identity is conceptualised as professional pre-identity views, knowledge about teaching duties in advance and considerations about the research-teaching nexus in one's work. We claim that if academic culture changes towards a more pedagogically positive one, new teachers would be better aware of teaching tasks in advance, and they would not see teaching as interfering with research.

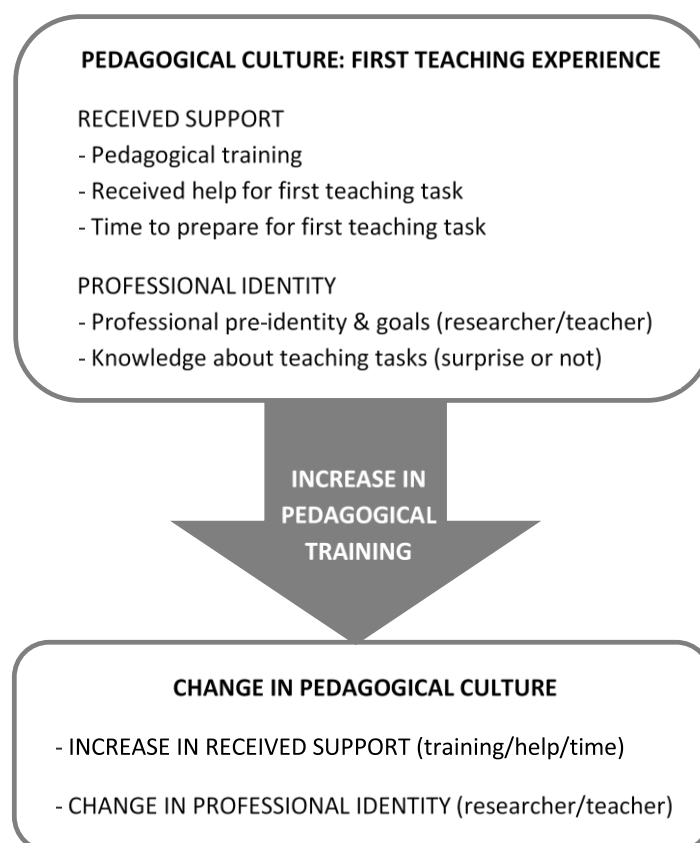


Figure 1: Elements of pedagogical culture and hypothesised impact of increased pedagogical training on it

To study possible changes in Finnish university teaching culture, university teachers' early career experiences were explored. A multidisciplinary sample was gathered, consisting of teachers with various amounts of teaching experience to detect a possible change in teaching culture. Since there are no recent studies on Finnish university teachers' experiences, we first conducted a small-scale qualitative study (Study A) to obtain a deeper understanding of the topical issues. Then, a larger-scale study with a bigger sample size (Study B) was executed to receive quantitative information on the central topics. The research questions of the studies were:

- (1) Are Finnish teachers' first teaching experiences in line with earlier international results showing problems with both received help and professional identity towards teaching? (Study A)

- (2) Has the pedagogical culture changed due to increased pedagogical training? (Study B)
- a. Is there a change in received support in terms of training, received help and increased time to prepare the first teaching task?
 - b. Is there a change in teachers' professional identities, indicating an increase in the value of pedagogy?
 - c. Are there disciplinary differences in pedagogical cultures?

2. Materials and methods

Setting, samples and data gathering

To study teachers' first teaching experiences over time, we conducted a cross-sectional retrospective study. The sample consisted of teachers with various amounts of teaching experience who were asked to retrospectively think about the time when they started as teachers. In retrospective research, the researcher looks backwards in time to explain differences between the past and current situation (Johnson, 2001). This study aimed to see if there are differences between the teachers who began their careers much earlier and novices. The target group for this study was teachers at one middle-sized Finnish university. A sample of five faculties out of a possible seven was selected for this study: humanities, mathematics and natural sciences, medicine, law and social sciences.

For Study A, one or two middle-size departments or units were selected from each faculty, for a total of eight units. In each unit, an informant was selected who had participated in university teacher pedagogical training. A snowball sampling method was used. The informants were contacted, asked to participate in the study and requested to recruit at least five colleagues in their unit to join. This procedure was implemented to motivate the teachers to participate and to receive better answer rates. The informants were instructed to select both novice and experienced teacher colleagues, as well as those who were pedagogically trained and untrained. Contact information for 53 teachers, including the informants, was received. A total of 36 responses were received via e-mail or post, resulting in a response rate of 68%.

In Study B, the same faculties but different units were selected. We administered a questionnaire to the teaching personnel of 12 units. Since we assumed that a general e-mail would result in a meagre response rate, we approached the teachers via paper mail. We searched for the contact information of each unit's teaching personnel through internet pages and addressed each member of the staff an envelope with the person's name on it, which included a questionnaire and return envelope. Teaching personnel included anyone with the title of professor, lecturer or researcher, even though we did not know whether they were teaching or if they were even present in the unit at the moment. We received a total of 171 answers. The response rate varied between 19% and 64% in the units, with a mean response of 32%. Taking into account that all of those who were sent a questionnaire were possibly not working at the moment, we assume the real response rate to be higher.

Voluntary participation, informed consent, and anonymity of the participants were ensured in the research process. The study did not involve intervention in the physical integrity of the participants, deviation from informed consent, studying children under the age of 15 without parental consent, exposure to exceptionally strong stimuli, causing long-term mental harm beyond the risks of daily life, or risking participants' security (cf. Finnish Advisory Board on Research Integrity, 2019). Consequently, this study did not require a Finnish ethics review.

Research instruments and data analysis

In Study A, the participants were sent a questionnaire consisting of a motivation letter, consent form, background questions about teaching experience and pedagogical training (in ECTS credits) and open-ended questions about their first teaching experience. The question concerning support in pedagogical culture was: *How much time and help did you receive for preparing your first teaching task?* The questions concerning their professional identity were: *How did your job as a university teacher begin? Did you consider working as a teacher a career option before your first teaching post? Did your first teaching task come as a surprise; why?* The notions of having/not having enough time, receiving/not receiving help and what kind of help, teaching as a surprise/not surprise and teaching as a career choice/not a career choice were classified and quantified from the data. The descriptive results and excerpts depicting the topics are presented in the results section.

In Study B, a questionnaire was formulated based on the results of Study A. The open-ended questions were replaced with multiple-choice questions concerning the topics from Study A that were found to be relevant to the teachers. For the question regarding whether or not the teacher received help, the options yes and no were given. If the respondent chose yes, they were then asked to check any of the following three statements: *a) I got previous teachers' materials (e.g., slides). b) My colleagues advised me and discussed with me about pedagogy. c) Faculty/department leaders offered me formal support (e.g., pedagogical training).* For the question regarding if they were given time to prepare for their first teaching experience, the options yes or no were provided. There was space to clarify the answer. The professional identity had three questions: *1) My first teaching task started because a) the task was offered to me, b) I applied for the task, c) teaching was part of my researcher task or d) some other reason, what? 2) My first teaching task: a) was not a surprise for me, b) was a positive surprise for me or c) was a negative surprise for me. 3) Choose the claim that suits you best: a) My teaching interferes with my research. b) My research interferes with my teaching. c) Teaching and research support each other in my work.* The quantitative data were analysed with IBM SPSS Statistics 25 (IBM, Armonk, NY). Since most of the examined variables were categorical, cross-tabulations and Chi-Square tests were used to analyse the data.

3. Results

Received support in Study A

By examining the respondents' pedagogical training (Table 1), we can conclude that in this sample, the old convention persists that only some novice teachers received pedagogical training (two out of six). Altogether, 69% of the teachers had pedagogical training. The teachers with 5–14 years of teaching experience were

the most educated in this sample; they all had pedagogical training, and seven of them had earned the full 60 ECTS credits. Almost half of the teachers with over 15 years of teaching experience had no pedagogical training. This sample suggests that the most experienced and most novice teachers had the least pedagogical training.

Table 1: Teaching experience in relation to pedagogical training and earned study credits (0–60 ECTS credits; Study A)

	Teaching Experience (Years)					Total (N = 36)
	0–4 (n = 6)	5–9 (n = 5)	10–14 (n = 8)	15–19 (n = 9)	20+ (n = 8)	
Pedagogical training, n (%)	2 (33%)	5 (100%)	8 (100%)	6 (67%)	4 (50%)	25 (69%)
ECTS credits, M ± SD	38 ± 32	50 ± 22	34 ± 22	25 ± 19	9 ± 5	32 ± 24

When asked if they had received help for their first teaching task, half of the teachers (n = 18) reported that they did not receive any support for their first teaching experience at the university. A teacher with 15 years of teaching experience wrote:

“I suddenly got an assistant position for a short period (they called me home and asked if I could take the job), and I had almost no time at all to prepare the teaching that began right away. I did not get any help, so the teaching was quite laborious.” (T25)

Three teachers reported that they received some old materials from the previous lecturers but no any other kind of help. According to a teacher who had worked for 11 years:

“When I started as a lecturer, I got previous lecturers’ materials to use or at least to look. Based on those, I built my courses. You cannot teach someone else’s materials, but it is extremely valuable to see what contents the other teachers had. Now we have the unspoken principle at our unit: you always give the materials to your successors or deputies.” (T3)

The excerpt above indicates that the teacher thinks the pedagogical culture has changed because now there is a principle of giving materials to successors. However, fewer than half (n = 15, 42%) of the teachers reported receiving collegial support or some other kind of help in addition to materials. Teachers with 11 years (T26) and 22 years (T16) of teaching experience wrote:

“I got help with preparing the teaching because it is a custom in our work community to help colleagues, and usually a new teacher gets guidance and materials to use.” (T26)

“I didn’t get any official help for carrying our teaching, but I got lots of collegial support. Those with teaching experience gave me advice and helped in preparing lectures.” (T16)

The notion of official help can refer to, for example, organised support by the department or pedagogical training offered by the university. None of the teachers mentioned receiving this type of support before their first teaching task. When the participants were asked about the time available for preparing the first teaching session, seven teachers (19%) raised this as an issue, writing that they had not had enough time. A teacher with 28 years of teaching experience reported:

“After graduation, I applied for a teacher position, and I was selected. It came as a surprise in the sense that I had never thought during my education that I would be a teacher... There was no time for preparation; the courses (420 hours teaching per year) started right away. I was given a previous lecturer’s folder containing materials.” (T27)

Professional identity in Study A

When we asked the teachers whether the first teaching task was a surprise to them, over one-third of the teachers ($n = 13$, 36%) reported that it was. A teacher with 35 years of teaching experience wrote:

“I suddenly got a deputy post (of an assistant professor) to carry out. I started a substantial preparation; I had to do two lecture series, seminars for them and examinations based on books. I got hardly any time to do it. However, I survived that half a year without any significant damages. Hardly any help for all this was available.” (T23)

Some teachers were surprised because they did not think teaching would be part of a researcher’s job, as a teacher with two years of teaching experience wrote:

“When I graduated as a master, I was immediately hired as a doctoral student. There was no information (e.g., when the contract was signed) that the job would include teaching. I got to know about this only when the job had already begun... The teaching obligation was a shock for me; I never thought I could be a teacher. I wanted to be a researcher.” (T18)

The three excerpts above show that the first teaching task was a surprise in a sense that it came suddenly, they did not apply for it, and they might not have ever thought of being a teacher. The participants were also directly asked whether they had ever considered being a teacher before they received their teaching job. Out of the 36 teachers, 26 (72.2%) replied that they had thought of becoming a teacher one day, whereas for 10 (27.8%) of the teachers, it had never been a career aspiration. Five of the 10 wrote that they wanted to be researchers without a teaching role.

Many of the teachers who had been interested in a teaching career explained that it had been their career aspiration from childhood or that they had family members who were teachers. Thus, the idea of being a teacher was familiar to them. They stated their awareness that a researcher position would include teaching, and some had deliberately sought a teaching role:

"I have intentionally aimed to be a teacher. I didn't just drift there alongside the research." (T22)

This quote mentions that it is possible at the university to drift into the role of a teacher. Some respondents confirmed that this could happen. Five respondents wrote that they wanted to do only research in their early years and did not want to teach at all:

"I did not want to be a teacher but a researcher. I considered a researcher's job to be much more exciting and more suitable for myself." (T12)

"I did not consider teaching as a possibility. I aimed to be a researcher, particularly for the reason that I did not want to be a teacher. Being a teacher was unattractive to me because I thought it would require social and interactional capabilities that I felt I did not possess." (T26)

"I was riveted to the research. Teaching has come on the side; you have to earn your salary from somewhere." (T29)

In Teacher 26's answer, it can be seen that the teacher thought he/she might not have the required abilities to become a teacher. Teacher 12's response could also be interpreted in this way. Thus, some of the teachers who were not interested in teaching had low self-efficacy beliefs concerning teaching tasks. Lack of interest may also have been a cause, as in the case of Teacher 29.

Received support in Study B

The results of Study B (Table 2) were consistent with those of Study A in the sense that the percentage of pedagogically trained teachers was lowest for the groups with 0–4 years and over 20 years of experience. When comparing these novice ($n = 55$) and senior groups ($n = 36$) with the three intermediate groups ($n = 80$), the results show that the middle groups had more pedagogical training than novice and senior groups ($\chi^2[2] = 8.49, p = .01$). This difference means that the newcomers still lack training, but the situation for intermediate groups is much better than for seniors, indicating a possible change in pedagogical culture over time. However, upon examining the number of studied credit points (ECTS), we noticed a large number of credits among the novice teachers who had taken courses. There was no statistical difference among the experience groups in the number of studied credit points, which means that those who sought pedagogical training were equally active in each experience group.

Table 2: Teaching experience in relation to received support and professional identity (Study B)

Pedagogical Culture	Teaching Experience (Years)					Total ($N = 171$)
	0–4 ($n = 55$)	5–9 ($n = 32$)	10–14 ($n = 29$)	15–19 ($n = 19$)	20+ ($n = 36$)	
Received Support						
Pedagogical training (%)	36.4	59.4	62.1	57.9	40.0	48.2
ECTS credits ($M \pm SD$)	39 \pm 37	21 \pm 20	34 \pm 21	47 \pm 25	43 \pm 29	36 \pm 28

Received help (%)	78.2	68.8	51.7	57.9	38.9	61.4
Enough time to prepare for first teaching (%)	79.6	93.3	79.3	94.4	85.7	84.9
Professional Identity						
Teaching interferes with research (%)	42.3	26.7	33.3	22.2	12.1	29.4
Teaching was a surprise (%)	60.0	48.4	46.4	36.8	52.8	51.5

When examining whether teachers received help at the beginning of their teaching careers, we found that novice teachers received the most support and senior teachers received the least ($\chi^2[4] = 16.2, p < .01$). This disparity indicates a change in pedagogical culture towards a more supportive environment. The help that the teachers reported included previous teachers' materials (e.g., slides; 75.2%), advice from and discussions with colleagues (53.3%) and formal support from faculty/department leaders (e.g., pedagogical training; 4.8%). Thus, receiving previous materials seems to be the most typical, and only half received help through discussion with a colleague. Only five out of the total of 171 respondents stated that they had been offered some official support from the faculty/department.

The majority (84.9%) of the respondents felt that they had enough time to prepare for their first lesson, and there were no differences between the teaching experience groups. However, 25 teachers stated that they had not had enough time, so there is still concern regarding this factor in some cases.

Professional identity in Study B

In Study B, teaching was reported to be a surprise to about half of the teachers, indicating that universities are not successfully informing their future employees about their job duties. However, only 5% of the teachers stated that it was a negative surprise, whereas 46% felt it was a positive surprise. Thus, the number of respondents who felt disappointed was low. The participants were further asked how their first teaching task started. A total of 45% ($n = 77$) of the respondents answered that they had been offered the job, whereas 15% ($n = 26$) replied that they had applied for the job. A little over one-third ($n = 61, 36\%$) answered that their teaching task was inherent to the researcher position.

Approximately two-thirds ($n = 109$) of the teachers felt that their research and teaching complemented each other. When comparing the experience groups, novice teachers most often felt that their teaching interfered with research, while only a few of the senior teachers thought so. When comparing these two groups to the combination of the three intermediate experience groups, a statistical difference was found ($\chi^2[4] = 15.25, p = .04$). It is interesting to note that none of the novices and only one member of the intermediate group thought that research interfered with their teaching. In contrast, three respondents from the senior group felt so.

Disciplinary differences

Having pedagogical training was most common in the humanities, where 80% of the respondents had training ($\chi^2[4] = 7.82, p < .01$). This group also had more ECTS credits than any of the other faculties. Received support was cross-tabulated with the faculty, and a statistically significant difference was found ($\chi^2[4] = 17.74, p < .01$). It seems that in the faculty of law, helping new teachers was not very common, but in other faculties, approximately half of the respondents reported receiving help (see Table 3). There were no differences between the faculties regarding how much time teachers were given to prepare for their first lesson or regarding teaching being a surprise. The research-teaching nexus was also cross-tabulated with faculty, but there were no statistically significant differences. However, Table 3 shows that in humanities and law, the respondents reported most rarely that teaching interfered research.

Table 3: Disciplinary differences in received support and professional identity in Study B

Pedagogical Culture	Academic Discipline				
	Economic s (<i>n</i> = 49)	Law (<i>n</i> = 13)	Humaniti es (<i>n</i> = 15)	Science and technolog y (<i>n</i> = 60)	Social sciences (<i>n</i> = 34)
Received Support					
Pedagogical training (%)	51.0	46.2	80.0	40.7	44.1
ECTS credits (<i>M</i> ± <i>SD</i>)	33 ± 24	19 ± 8	52 ± 31	32 ± 24	38 ± 39
Received help (%)	65.3	7.7	73.3	66.7	61.8
Enough time to prepare for first teaching (%)	76.1	84.6	85.7	88.1	91.2
Professional Identity					
Teaching interferes with research (%)	29.5	15.4	8.3	34.5	33.3
Teaching was a surprise (%)	55.1	38.5	64.3	43.3	60.6

4. Discussion

Based on the results of this study, it still seems to be typical for Finnish novice university teachers to teach without pedagogical training, since only slightly more than one-third of them had taken any pedagogical courses. The situation was a bit better for respondents with 5 to 19 years of teaching experience, since about half of them had pedagogical training. The most experienced teachers (with over 20 years of teaching experience) had less training than the intermediate experience group, indicating that those who began their teaching careers earlier, when pedagogical training was not offered as frequently as it is now, are not as active as their younger colleagues in searching for training opportunities. Thus, there seems to be a slight positive effect due to the increase in the amount of pedagogical training available. We found no differences in the completed number of credit points between the teacher experience groups, meaning that those who have taken courses are equally active in each group in terms of how lengthy training they have participated.

Although the pedagogical culture has not remarkably changed regarding ECTS credits, there was a notable difference in the experience of received support. While only about 40% of the senior teachers in Study B reported having help at the beginning of their teaching careers, almost 80% of the novice teachers stated that they had received support; the intermediate groups were between these two. Thus, we claim that the pedagogical culture has become more supportive over the last 20 years. The most typical form of help was receiving previous teacher's materials (e.g., slides) as well as advice from and discussions with colleagues. What was worrying in this sample was that only 5% stated that their faculty or department had offered them official help.

It appears that the amount of time allotted to preparing for teaching seems to be a marginal problem in this sample since only 15% felt that they did not have enough time. Further studies are needed in order to solve how teachers can be provided more time. Based on the conclusions above, the pedagogical culture in the form of received support (i.e. pedagogical training, received help and time to prepare for the first teaching task) seems to be developing towards a more positive one. Regarding professional pre-identity views, such as knowledge about teaching duties in advance and the research-teaching nexus in one's work, development of the pedagogical culture was not so evident.

Based on the results of Study A, a teaching task can be a surprise for many reasons: 1) the task comes *suddenly*, and there is little time between being notified and starting teaching, 2) teaching is assigned *without applying* (the novice teacher is proposed a teaching job for which they did not apply) and 3) the respondent *never considered becoming a teacher* and is astonished at the idea of being one. These three reasons can also coincide: some teachers reported that they never thought of becoming a teacher (reason 3), and they were asked to do a teaching job that they did not apply for (reason 2), which began immediately (reason 1). If these experiences are combined with the fact that no help is provided, it may cause that the teacher will feel helpless about the situation. In this type of situation, there is also the danger of merely copying previous practices without any deliberate development processes (i.e., 'to teach in the way they were taught'; Oleson & Hora, 2014). In Study B, about half of all teachers reported that their teaching tasks came as a surprise, but only 5% felt negatively about this.

Some of the teachers in Study A expressed that some faculty were interested in having a research career without teaching duties. In contrast, others simply did not know that research work would include teaching tasks. Those who thought a research career without teaching would suit them explained that they felt insecure regarding their teaching skills (i.e., they had low self-efficacy beliefs; Lindblom-Ylänne et al., 2006). Building a positive teacher identity when working at a university is thus an essential goal for staff development. Also, if teaching is considered necessary in the university, it should be valued and rewarded more highly to promote a stronger teaching culture (Alpay & Verschoor, 2014). Further, new faculty should be trained to combine research and teaching duties. In this study, novice teachers most often felt that teaching interfered with their research, which does not indicate a positive pedagogical culture. It might be that novices

are given more general teaching tasks that do not relate to their research area, causing a feeling of these two areas disrupting each other. In a recent study by Jääskelä, Häkkinen, & Rasku-Puttonen (2017), many teachers reported having to work under a pressure whether to develop teaching or conducting research in their field. However, two thirds of the teachers in our sample felt that their research and teaching complemented each other. It could be that these teachers' research interest and teaching area are thematically closer.

To study disciplinary differences, we compared the five faculties that participated. No remarkable differences were found, except in one faculty, where the received help was much lower than in the others. The number of the respondents in this faculty, however, was small, so this aspect requires further study. The strength of the current sample is that it came from many faculties, and teachers with different levels of teaching experience and pedagogical training participated. However, the limitation is that the response rate was quite low, and we cannot know if we reached all kind of teaching personnel. The retrospective method also requires caution in that teachers may not remember their experience clearly, especially if their first teaching experience took place long ago.

5. Conclusions

In this study, novice teachers experienced that they had received more help than senior teachers in the beginning of their teaching career at university, and intermediate teachers had more pedagogical training than senior teachers measured in credit points (ECTS). These results suggest that there has been a shift towards a more supportive pedagogical culture both in the forms of support received from colleagues and more formal university bodies, such as faculty or department leaders. However, many teachers, especially novice ones, are still lacking training and official help from their faculty or department. Also, professional identity measures indicate that new teachers are no better equipped for their job than their more experienced peers were since teaching was still a surprise for many. Novice teachers felt more than others that their teaching interfered with research, which means that the research-teaching nexus is still problematic among teachers. Offering pedagogical training before the first teaching experience, for example in the doctoral studies phase, would prepare prospective teachers better for their job. Also, ensuring that all new teachers will be given opportunities for pedagogical development is crucial in developing a more supportive pedagogical culture.

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Declaration of interest statement

The authors reported no potential conflict of interest.

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