

Change agency as a way of promoting pedagogical development in academic communities: a longitudinal study

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In the face of organizational transformations, academics are given a role as informal ‘change agents’ in their discipline-specific communities of practice (DCoP). Simultaneous participation in pedagogically oriented communities of practice (PCoP) enables them to promote pedagogical development through brokering at community interfaces. This empirical study explores academics’ experiences of acting as informal change agents at the interfaces of DCoP and PCoP during an organizational transition phase of three years. The longitudinal data were collected with interviews of 13 academics from the fields of science and technology. The findings reveal a variety of pedagogical development activities related to shared meanings, practices, identities, and ways of belonging. The activities are aligned with the organizational transition process and enabled by collegial support. The findings indicate that lack of supportive formal leadership may terminate the informal development activities. The resulting model of change agency provides a novel approach to pedagogical development in higher education.

Keywords: brokering; change agency; community of practice; organizational transformation; pedagogical development

Introduction

In the face of organizational transformations in higher education, pedagogical development is increasingly seen as a shared endeavour of all academic community members (Annala & Mäkinen 2017) rather than a task limited to formal organizational change agents (see Caldwell 2003; Harman & Harman 2003), such as professional developers, department heads, deans, or rectors. While previous studies have acknowledged the role of academics as ‘*informal change agents*’ (Doring 2002; McGrath 2017) and identified collegial dialogue in cross-community networks as a source of academic development (Mårtensson 2014), less is known about how academics’ pedagogical and discipline-specific community memberships contribute to

their work as change agents.

This study explores informal pedagogical change agency in a capacity of ‘*brokering*’ at the interfaces of communities of practice (see Wenger 1998) during a period of organizational transition. Change agents are defined as academics, such as professors, lecturers, and researchers, that are simultaneously members of both pedagogical (e.g. as participants of a pedagogical development course) and discipline-specific (as members of a research group or a department) communities. Due to their legitimate dual membership, these academics have an internal mandate to suggest changes in their discipline-specific communities. Acting as informal change agents may provide these academics an access to parts of organizational networks that may be difficult to reach for academics with a formal leadership or developer status (Hannah & Lester 2009). The informal change agent status may also provide a wider range of organizational development activities than an institutionalized decision-making position alone could do (Pielstick 2000; Mårtensson & Roxå 2016).

Supplementary to previous studies on the responsibilities of formal higher education leaders in a context of organizational transformations (see e.g. Harman & Harman 2003), this study adopts a novel perspective by identifying 1) how academics attempt to promote pedagogical development as informal change agents at the interfaces of pedagogical and discipline-specific communities and 2) what kind of organizational factors are perceived to enable or prevent the development activities at the time of the organizational transition phase.

Pedagogical development in academic communities of practice

Drawn from a social theory of learning (Wenger 1998, 2000), the conception of ‘community of practice’ (CoP) refers to a social network evolved around shared practice, such as teaching and research. According to Wenger (1998), CoP comprises of

members with mutual engagement to a joint enterprise. The community shares a common practice as well as a repertoire of discourses, concepts, tools, and artefacts relevant to the practice. In addition, CoP shares a system of cultural meanings, identities, and ways of belonging that result from histories of working together and reflect the community members' collective learning. The system is developed in a constant process of negotiation of shared meanings and participation in shared practices (Wenger 2010).

In higher education, the CoP model enables exploration on how collegial academic contexts deal with pedagogical development (Mårtensson 2014). The academic context of CoPs has also been referred to as 'teaching and learning regimes' (Trowler & Cooper 2002) that consist of discipline-specific traditions and norms that guide shared pedagogical practices. In this study, the CoP model is applied in reference to both informal working groups and formal organizational units with features of mutual engagement, a joint enterprise and a shared repertoire (see also Annala & Mäkinen 2017). As noted by Harman and Harman (2003), sensitivity towards these cultural systems is particularly important in a context of university mergers.

Academics are often simultaneously members in multiple CoPs evolved around shared activities of research and teaching (Remmik et al. 2011). Local discipline-specific CoP, such as a research group or a department, comprises of researchers and teachers of the same discipline or field of research. The community is often aligned with the organizational structure and tends to be rather permanent in nature. Membership in a discipline-specific CoP typically begins with apprenticeship-like participation as a student or a postdoctoral researcher and includes socialization into the cognitive as well as cultural processes, such as pedagogical traditions, of the community (Nersessian 2006). Pedagogical CoP typically comprises of researchers and teachers from various

disciplines and organizational units who share similar interests towards developing teaching and learning (see also Cox 2013). Membership in a pedagogical CoP typically begins with voluntary participation in common pedagogical activities, such as in-service training programs or conferences of education and pedagogical development (Remmik et al. 2011). Being based on voluntary participation, membership in a pedagogical CoP is generally more transient compared to membership in a discipline-specific CoP.

In a study on the impact of a pedagogical ‘faculty learning community’, Cox (2013) discovered that year-long participation in such a PCoP cultivated early-career academics’ interest in developing the quality of teaching and learning in their discipline-specific community. However, building on the idea of academics as pedagogical change agents at their local departments, McGrath (2017) found that universities lack formal structures for translating academics’ development interests into practice. In fact, the findings implied that there is an organizational gap between pedagogical development courses, often associated with a pedagogical CoP, and discipline-specific working environments that hinders academics’ opportunities for promoting pedagogical development on a department level (McGrath 2017, see also Remmik et al. 2011).

Previous studies have widely agreed that academics may overcome the lack of supportive organizational structures by applying negotiation and collegial dialogue to promote pedagogical development between academic communities (Warhurst 2008; Roxå & Mårtensson 2009; Remmik et al. 2011; Mårtensson 2014). The role of negotiation and dialogue has been highlighted especially in a context of curriculum reforms that involve all academics in pedagogical development work beyond their own courses (Louvel 2013; McGrath 2017). For example, Annala and Mäkinen (2017) found that academics could influence organization-wide curriculum reform by mobilizing their

collegial networks, identifying local development needs and negotiating ways of implementing strategic organizational change initiatives in their local discipline-specific CoPs. Based on the findings, they suggested that future research should focus on identifying what kinds of CoP fundamentally direct pedagogical development in higher education (Annala & Mäkinen 2017). This study complements previous research by identifying pedagogical development activities at the interfaces of two distinct academic CoPs: pedagogical and discipline-specific communities (see also Warhurst 2006).

Change agency as brokering

Despite of lacking an institutionalized developer or leadership status, academics may transfer their learning from a pedagogical CoP to promote pedagogical development in their discipline-specific CoP (see also Warhurst 2006). Promoting development by mediating across community borders has been referred to as brokering (Wenger 1998; 2000), acting as a knowledge catalyst (Hannah & Lester 2009), knowledge brokering (Meyer 2010), and boundary crossing (Akkerman & Bakker 2011). Even though all academics mediate across various communities of practice, change agents actively engage themselves in brokering by developing the discipline-specific system of shared practices, meanings, identities, and ways of belonging to the community.

As brokers, change agents leverage their legitimate community memberships to promote dialogue by transferring and translating knowledge from one community to another, mediating between various perspectives, and making the new knowledge usable to the target community (Meyer 2010). Wenger (1998) refers to ways of utilizing mutual engagement to promote dialogue with other community members as techniques of participation. In addition to crossing community boundaries themselves, change agents can create boundary objects that embody meaning for both communities and are transferrable between them (Akkerman & Bakker 2011). Wenger (1998) refers to

creating transferrable objects, such as artefacts, discourses, and processes, to reflect certain meanings and promote alignment to them as techniques of reification. For example, creating an electronic system for sharing student feedback among course staff could be considered as a technique of reification that promotes alignment to the idea of shared feedback. Brokering may also involve creating boundary practices around activities and interests that are common to more than one CoP (Wenger 2000). For example, organizing a teaching seminar for researchers may involve both pedagogical and disciplinary community members, thus creating a shared practice at the community boundaries.

According to Wenger (1998; 2000; 2010), brokering has several potential ways of promoting development in a context of CoPs. Improvement of shared practices may increase the community members' engagement to them and new ideas from other CoPs may promote imagination of future directions for development (Wenger 2010). Brokering may trigger negotiation on what kind of experiences constitute as competence within the community and which forms of participation are accepted as legitimate community memberships (Wenger 2000). As noted by Andresen (2000), expanding the variety of relevant experiences and legitimate forms of participation in higher education may benefit especially those academics that focus on pedagogical development in contrast to research or teaching.

Brokering results in incorporating new meanings into the shared understanding of the community and is indicated with strengthened, modified, or entirely new practices, identities, and ways of belonging (Wenger 2000; Akkerman & Bakker 2011). The resulting theoretical model of change agency as brokering is presented in Table 1.

[Insert Table 1 near here]

A longitudinal research design was applied to explore change agency as brokering one

year after three Finnish universities with distinct academic and institutional cultures were merged into one in 2010. In the merger, a former university in the fields of science and technology formed four of the six schools of the new multidisciplinary university with management coming under a single governing body. According to Harman and Harman (2003), the long-term effects of this kind of a full institutional merger may include stronger academic programs and greater institutional flexibility, but the effects are dependent on the sensitivity of formal leadership strategies towards the underlying cultural differences.

The strategic goal of the new university is to acquire world-class stature in selected areas, such as the quality of teaching. The development strategy relies heavily on grass root level activeness and empowerment of the faculty staff. At the time of this study, however, concrete ways of contributing to organization-wide pedagogical development with bottom-up activities were not precisely defined. The university employs over 5,000 faculty and staff members. According to its strategic aim, all teachers are expected to carry out research and all researchers to engage in teaching activities. The shared responsibility over teaching and research provides potential for introduction and infusion of pedagogical practices across the academic communities.

In the first year of the merger, the development pressure focused mainly on the administrative level whereas the teaching and research practices continued to follow the traditions of the former universities. At the beginning of this study in 2011, the new university was still in a transition phase of the merger and the academics began to prepare for degree program reforms conducted in all six schools in 2012. As a part of the reforms, the schools were developing coherent educational practices between each other and most academics were engaged in the development processes on a department, program, or course level. In 2013, the first new courses were available for the students

but the development of the degree programs continued. The context of organizational merger and the large-scale curricular change provide a unique opportunity to investigate informal pedagogical change agency as a concrete manifestation of the organizational grass root level development strategy. In this context, the following research questions were proposed:

- (1) How do academics act as informal change agents at the interfaces of pedagogical and disciplinary communities of practice during a three-year transition period of the newly merged university?
- (2) What kind of organizational factors are perceived to enable or prevent the informal change agent activities at the interfaces of pedagogical and disciplinary communities of practice during a three-year transition period of the newly merged university?

Methods

Pedagogical change agent program as a context of the study

In order to support the academics in their informal development work related to the organizational transition phase and the upcoming degree reforms at the newly merged university, a 'pedagogical change agent program' was organized by a centralized pedagogical development unit in 2011. The structured, voluntary program of one year was targeted for academics that had already completed a number of pedagogical development courses. The change agent program represented a special type of a pedagogical community of practice at the university (see also Cox 2013). The multidisciplinary community provided a platform for sharing experiences around pedagogical development practice as well as learning and receiving support from other community members. Topics of the monthly meetings evolved around the upcoming

degree reforms and concerned, for example, models of curriculum design in engineering education. The participants were encouraged to take a proactive role in organizing common activities, such as attendance to an educational conference, according to their personal interests and the needs of their local discipline-specific communities. Participation in the change agent program did not entitle to an institutionalized developer status within the organization.

Participants

Before the beginning of a voluntary one-year pedagogical change agent program of the university, all 25 participants of the program were sent an invitation to take part in this study. A total of 13 academics from the field of engineering sciences volunteered for the interviews. Distribution of the 13 participants was even across the schools of engineering as well as regarding gender. At the time of the first data collection round, the participants had completed at least 25 ECTS (European Credit Transfer and Accumulation System, one credit equals approximately 27 hours of study) of pedagogical training. They were all on teaching and research appointments at the university, such as lecturers, researchers, or professors, and their experience on university-level teaching ranged from a few years to more than 20 years. All participants had expressed interest in informal pedagogical development work by applying to the change agent program. Majority of the participants had an informal developer status at the time of the first data collection round, and some of them had changes in that status over the research period.

The participants' organizational position and length of academic career could have affected their approach to acting as an informal change agent. For example, a lecturer with more than 20 years of teaching experience could focus on different aspects of pedagogical change, such as organizing collaborative teaching practices, than a

researcher with numerous pedagogically oriented scientific publications or a newly appointed professor with an access to institutional pedagogical decision-making forums. However, rather than identifying how the development experiences may have varied according to organizational position and length of academic career, the study sheds light on what kind of opportunities the academics have for acting as informal pedagogical change agents.

To protect the participants' anonymity, they have been given a participant code from CA1 to CA13. Instead of exploring how the differences in their demographic backgrounds possibly affect the individual experiences, the study aims to identify the wide variety of change agent experiences in the sample. Participation in the study was voluntary, and no incentives were used. The authors were not involved in organizing the change agent program. According to the guidelines on ethical review concerning non-medical research with human participants (Finnish Advisory Board on Research Integrity, 2009), an ethics review was not required.

Data collection

The first author collected the data by interviewing 13 academics from the field of engineering in three separate phases in 2011, 2012, and 2013. The first open, thematic interview in 2011 began with a warm-up exercise of illustrating one's trajectory as a pedagogical developer by drawing a lifeline (e.g. Cermák 2004). The exercise was used to provide the interviewees a chance to reflect on the past activities before they were asked to describe their pedagogical development efforts in a chronological order. Majority of the interviewees began to describe their development efforts right away starting typically from their first teaching experiences as course assistants during their university studies. In 2012 and 2013, the participants were asked to elaborate their pedagogical development efforts of the past year. The descriptions usually followed the

logic of an academic resume and included stories of developing one's own teaching as well as participating in pedagogical training. The interviewer asked semi-structured follow-up questions to encourage the participants to provide more descriptions related to community level development efforts and other forms of pedagogical collaboration with their colleagues in academic communities of practice. The questions concerned the people involved in the reported development efforts as well as the progress, enablers, obstacles, and identified effects of the efforts. The interviews from each year lasted approximately one to two hours each and resulted in a total of 78 hours of recorded data that were transcribed. As the focus of the study is on community level pedagogical development efforts, 18 descriptions of improving one's own teaching without any explicit reference towards the community were excluded from the data. The remaining 113 descriptions of change agency included 48 efforts in 2011, 37 efforts in 2012, and 28 efforts in 2013.

Data analysis

The longitudinal interview data were content analysed (e.g. White & Marsh 2006) utilizing the framework of change agency based on Wenger (1998, see Table 1). The analysis consisted of four stages presented in Figure 1.

[Insert Figure 1 near here]

The first stage of the analysis was a deductive categorization of the pedagogical community-level development efforts from each year of the study according to the four dimensions of leaning in a community of practice, namely practice, meaning, identity, and community. These categories covered all 113 descriptions in the data and included 18 to 40 descriptions from eight to 13 participants.

The second stage of the analysis was inductive formulation of subcategories based on the specific focus of the development activities within each of the four main categories. The category ‘practice’ included descriptions of establishing pedagogical activities between the pedagogical and discipline-specific communities of practice as well as promoting translation, coordination, and alignment between various perspectives. The category also included renewing the existing pedagogical practices and creating new ways of working within the disciplinary community. The category ‘meaning’ included descriptions of developing the shared pedagogical meaning schemes of the discipline-specific community by initiating pedagogical discussions, asking critical questions, and sharing pedagogical development experiences. It also included descriptions of making official decisions, documents, and contracts related to teaching. The category ‘identity’ included descriptions of strengthening the position of pedagogical expertise and redefining academic identities within the discipline-specific community by sharing pedagogical research findings and persuading colleagues to join the pedagogical community of practice. The category ‘community’ included descriptions of developing the ways of belonging to the community by establishing multiple memberships within the university, attending official development meetings within the disciplinary community, making suggestions on how to organize the shared teaching activities and developing the shared teaching methods and equipment.

The third stage of the analysis was identifying the organizational factors that were perceived to either support or prevent the completion or acceptance of the development efforts in discipline-specific communities. Organizational enablers included factors that facilitated the development efforts, such as available information. Organizational obstacles included factors that made development either challenging or

impossible, such as lack of funding. Each of the four development categories included 37 to 115 influential organizational factors from eight to 13 participants.

The fourth stage of the analysis was creating chronological descriptions of the categorized development activities and organizational factors in accordance to the year of their appearance in the interview data. In order to present the longitudinal data in a context of the three-year period of the organizational transition phase, the emergence of the activities each year of the study was presented with a line chart. In addition, the emergence of the organizational enablers and obstacles each year was presented with a bar chart.

To assess the robustness of the analytical scheme, the second and the fourth author independently analysed six interviews each, i.e. a total of 12 of the entire data set of 39 interviews. All authors then discussed discrepancies in the analysis until they reached an agreement. The analysis of the categories ‘identity’ and ‘community’ was compatible between the authors. The discussion resulted in clarifying the difference between facilitating the disciplinary community members’ discussion in category ‘practice’ and introducing new pedagogical meanings into the disciplinary community in category ‘meaning’.

Results

Overview of the change agent activities during the transition phase of three years

Based on the theoretical framework of change agency in communities of practice (see Table 1), the results revealed academics’ experiences of acting as informal pedagogical change agents at the interfaces of pedagogical and discipline-specific communities of practice. Majority of the activities were related to *developing shared pedagogical*

meanings by taking part in disciplinary collegial discussions. Some of the development activities involved promoting alignment to the results of the discussions by, for example, making a presentation about a new study offering, as described in the following quotation. Instead of acting alone, the change agents preferred to collaborate with like-minded colleagues, such as a degree reform preparation group, to take the initial development ideas further.

As a part of the degree development process, we decided to, there has been continuous critique from students that the [compulsory] physics studies are not connected with our own discipline-specific studies. And the statistics showed that many students fail to complete the physics studies. -- We [a group of academics involved in the degree development process] decided to find out if we could provide our own integrated physics studies. We made a presentation about the idea. (CA9, 2013)

Change agents described *improving shared disciplinary practices* by creating opportunities for collaborative teaching, promoting translation and coordination between various perspectives on how to organize teaching at the disciplinary community, and organizing common activities between pedagogical and disciplinary communities. In order to *develop shared ways of belonging to the disciplinary community*, change agents established new forms of community memberships, developed shared teaching infrastructure, and increased the level of formal engagement with the community. In the following quotation, change agent describes how taking part in an education committee enabled sharing new pedagogical information with own research group, referred to as a 'circle'. The quotation also highlights how the autonomous teaching culture at the department made it difficult to find information of other academics' teaching and to get new ideas for one's own courses.

I have participated in -- our [department level] education committee where I have received funding for some educational conferences. There I have heard something that I have been able to share with my circle and show example of how things could be done. It is not anything amazing that I teach but there I can also tell others about it and get new ideas. (CA10, 2011)

Change agents also described *modifying shared academic identities* by conducting and presenting discipline-specific pedagogical research as well as encouraging disciplinary colleagues to join pedagogical development activities. As described in the following quotation, publishing scientific research papers could be applied to affect the way that educational development activities were perceived as a part of the joint academic work at the department.

It [a collaboratively written conference paper on discipline-specific pedagogical development] did not start a huge conversation but I think it was good that we wrote the paper, -- I think that the paper also affected our Department Head, -- and made him realize that -- education is not an extra burden for us --. Instead, it can provide interesting research questions and [communicate that] the pedagogical challenges are relevant for our field of research. (CA2, 2012)

The informal change agent activities were perceived as being either supported or hindered by organizational factors related to collegial support, formal leadership, research orientation, autonomous teaching culture, availability of information and contact networks. In the above quotation, for example, the Department Head was perceived to have adopted the organizational tendency to prioritize research over teaching, and research was utilized as a way of communicating the value of teaching to the management. The change agent activities and the influential organizational factors are summarized in Figure 2.

[Insert Figure 2 near here]

Developing shared teaching practices in the first year

Each year of the study, the reported change agent activities were aligned with the stage of the organizational transition phase and their focus varied accordingly. In the first year, majority of the reported development experiences took place before the university merger in 2010 and focused on developing shared teaching practices together with or with the support of the disciplinary colleagues. Change agents described promoting translation and coordination between various perspectives and creating boundary practices, such as pedagogical seminars for researchers, between their disciplinary and pedagogical communities. Due to the autonomous teaching culture, change agents could utilize their own courses as development platforms by, for example, organizing workshops that involved disciplinary colleagues as co-teachers. Other disciplinary community members were often focused on research work and some of them welcomed their change agent colleagues in taking charge of developing teaching. In the following quotation, change agent describes how finding a supportive disciplinary colleague inspired establishing pedagogical meetings at the department.

This colleague was the first person I could discuss about teaching with in our department. There is no one I could do that with in my own research group. [...] I just wanted, I realized that the teachers should be able to discuss, they spend too much time isolated from each other – and I thought that this is really stupid, [pedagogical meetings] are not organized by the department heads, it was just a great idea of one teacher that it could be done. (CA10, 2011)

The efforts of developing shared pedagogical practices were hindered by organizational tendency to prioritize research over teaching that resulted in lack of time, funding, and motivation for pedagogical development work. In many research groups, change agents reported lack of support from their disciplinary superior, typically a professor and head of the research group, and felt guilty for focusing on teaching rather than research. Due

to the research-based tenure track criteria, autonomous teaching culture, and lack of information on others' teaching, they considered it challenging to involve their disciplinary colleagues in pedagogical development. Change agents reported needing more organizational support for working with the resistant colleagues, organizing collaborative teaching, and conducting pedagogical research. In the following quotation, change agent describes the difficulties of intervening the autonomous teaching culture.

It was not self-evident that people [within the department] would accept or want the changes I suggested. -- It was a hard job to do because I had to push against other people. The attitude was that we have always been able to decide these things by ourselves, why do you bother us with your advice. (CA12, 2011)

Minority of the reported development efforts focused on strengthening the role of pedagogical development within the discipline-specific community. Change agents modified the ways of defining academic expertise by conducting and presenting pedagogical disciplinary research. They also strengthened their engagement to the disciplinary community by taking part in official pedagogical meetings, establishing memberships in multiple academic communities, and persuading their disciplinary colleagues to join the pedagogical community.

Negotiating shared pedagogical meanings in the second year

At the beginning of the degree reform preparations by the second year of the study, change agents shifted their attention from developing shared teaching practices to influencing shared pedagogical meanings with the support of disciplinary colleagues. As the preparations consisted mostly of meetings, change agents used techniques of participation, such as participating in pedagogical discussions, sharing experiences of teaching, and interpreting information related to the university-wide degree reform, to shape the shared meanings. They reported finding new ways of approaching the

disciplinary reform processes by having a dialogue with the pedagogical community of practice. Minority of the negotiation efforts were based on ways of promoting alignment to certain pedagogical decisions by preparing pedagogical documents, establishing official development projects, or applying for official pedagogical recognition. In the following quotation, the change agent describes the challenges of influencing the shared understanding through discussion.

I have tried many times to say that the only reasonable way to establish the degree reform is to engage as many professors as possible in planning it. -- In one meeting, I told the university management that the development goal for the next year should be improving the engagement of professors. They got so mad at me! (CA5, 2012)

Change agents reported taking part in the activities of the pedagogical community in order to find information about the reform processes in other schools and strengthen their argumentation with alternative pedagogical meanings within the disciplinary community. Participation in pedagogical in-service training provided access to a university-wide contact network that supported the pedagogical development efforts. In the following quotation, change agent describes the role of a pedagogical community in finding teaching-related information and receiving positive encouragement.

In the pedagogical meetings, I find out what the other teachers are doing and how as well as what are the current focus areas and most critical issues. I have also introduced my own pedagogical research findings and they [the other teachers] have been very interested. (CA4, 2012)

The upcoming degree reforms increased the number of descriptions related to the importance of supportive university level leadership that guides the work of disciplinary superiors. In the second year, academic research orientation was accompanied with lack of supportive formal leadership, namely the inability of the organizational level

decision-making to support the community level reform processes, as the main organizational obstacle for pedagogical development. Lack of supportive formal leadership was manifested in, for example, assigning heavy pedagogical development responsibilities on top of full-time research work. Some of the change agents also reported lacking adequate resources, information, and instructions for making the requested developments and considered pedagogical development work more difficult than in the previous year of the study. The number of efforts related to developing shared identities and ways of belonging to the disciplinary community diminished. It is possible that these efforts seemed irrelevant at the time of the degree reforms.

Struggling with lack of supportive formal leadership in the third year

By the third year of the study, degree reforms had begun in all schools and the change agents' optimism regarding organizational development possibilities had seemingly decreased alongside the number of reported pedagogical development efforts. The number of descriptions of lack of supportive formal leadership on an organizational level increased and replaced research orientation as the main organizational factor that prevented their development efforts. For example, as stated in the following quotation, some teaching experiments were overridden by a university level decision to replace all courses of existing study programs with new ones.

I started a teaching experiment [years] ago. -- Now the experiment will be shut down -- and there's one class of students who will not be able to finish the [...] program. -- and it's interesting to think how I will be able to report my observations from the past years. I would have wanted to test some of the new practices one more time next year. -- the experiences resulting from my experiment could not be used in developing the new courses. (CA1, 2013)

Towards the end of the study, the number of descriptions related to supportive

disciplinary colleagues diminished. It is possible that the uncertain continuation of employment during the transition process discouraged the academics to get involved in development work. Autonomous teaching culture provided the disciplinary colleagues, and in some cases also the disciplinary superiors, a chance to decline from the collaborative development efforts and resist the suggested changes. On the other hand, formal authorization and support from disciplinary superiors motivated the change agents to continue their development efforts. In the following quotation, change agent describes how formal decision-making processes hindered efforts of involving colleagues in pedagogical development.

New things [related to the degree reform] can come up surprisingly. They can come from anywhere. And we just somehow react and it makes planning [of the new degree structure] very difficult. And it has a very negative effect on my possibilities of involving anyone else in the planning. Because everybody knows that the house of cards can go down at any moment and for any reason. -- This is the worst situation considering what we are trying to achieve. (CA12, 2013)

In Figures 3–5, the focus of change agent activities and the variety of influential organizational factors are presented in a context of the three-year period of organizational transition.

[Insert Figures 3–5 near here]

Discussion

The aim of this study was to examine how academics acting as informal change agents can promote pedagogical development during a three-year period of an organizational transition phase that began after a merger of three universities into one. The organizational transition phase, involving degree reform processes in all schools and the establishment of a one-year pedagogical change agent program to support the academics

in their development work, provided a fruitful context for exploring the experiences of informal change agency at the newly merged university.

Based on an idea of change agency as brokering (see Wenger 1998), this study showed that academics' activities at the interfaces of pedagogical and disciplinary communities of practice embody a wide range of development opportunities previously identified in studies of boundary crossing (Akkerman & Bakker 2011) and knowledge brokering (Meyer 2010). In a context of organizational transition phase, brokering activities were found to bridge the gap between pedagogical and disciplinary communities by improving the discipline-specific conditions for pedagogical development (see also Warhurst 2006). While previous studies have emphasized the importance of improving the local conditions for how academics approach and enact teaching development (see e.g. Åkerlind 2007; Ginns, Kitay & Prosser 2010), this study broadened the perspective by revealing how change agents may also develop their disciplinary communities by creating new identities and establishing new community memberships around teaching and learning. The findings contradict previous studies that have questioned the ability of individual academics to bring about pedagogical change beyond their own courses (see e.g. Mårtensson & Roxå 2016; McGrath 2017).

In this study, the change agents were found to adjust their informal development activities to support the organizational transition phase, despite the fact that the newly merged university had not yet established concrete means of involving all faculty in organizational development. For example, when the number of formal meetings increased during the degree reform preparations, the focus of informal change agent activities was directed towards promoting and facilitating pedagogical discussions among disciplinary colleagues. The change agents were found to prefer similar development practices, such as dialogue, that have been identified in previous studies of

organizational development among institutional leaders (see e.g. Knight & Trowler 2000; Gibbs, Knapper, & Piccinin 2008; Hannah & Lester 2009). In comparison to institutional leaders, however, informal change agents seemed to have a wider range of local development opportunities, such as utilizing their own courses and research articles as development platforms, available at different stages of the organizational development processes (see also Pielstick 2000; Mårtensson & Roxå 2016).

The findings of this study revealed that in a context of organizational transition, change agency is highly dependent on formal structures and policies for supporting all faculty in pedagogical development (see also McGrath 2017). The supportiveness of formal leadership strategies, in particular, was found to have a crucial role in defining the success of pedagogical development efforts during the degree reform preparations (see also Knight & Trowler 2000; Harman & Harman 2003). It is possible that the lack of alignment between formal leadership strategies and informal change agent activities made the change agents look untrustworthy in the eyes of their disciplinary colleagues, thus diminishing the degree of collegial support for pedagogical development towards the end of the degree reforms. The findings provide a novel perspective of change agency to bear on previous studies that have called for balancing the discrepancies between formal and informal forms of institutional leadership (see e.g. Pielstick 2000; Hannah & Lester 2009). This study resulted in a novel theoretical and empirical model for exploring how universities could better support informal change agency as a way of promoting pedagogical development in higher education.

Limitations of the study

This study was conducted within one Finnish university in the field of engineering education. Further studies are needed to explore the extent to which the findings are applicable to other disciplines and higher education contexts involved in activities of

developing the quality of teaching. This study is limited to the perspective of the academics that participated in a pedagogical change agent program and does not explore the perspectives of other possible change agent groups, other community members, students, or management. It is possible that some of the reported development efforts lacked justification or were poorly planned from the management perspective. It is also possible that the other community members and their superiors felt burdened by the organizational reform processes and consequently resisted new development efforts.

Practical implications

The findings of this study imply that universities might benefit from developing their institutional leadership and development strategies to leverage and support informal change agency at the interfaces of pedagogical and disciplinary communities (see also Smyth 2003; Gibbs, Knapper, & Piccinin 2008). As suggested by Hannah and Lester (2009) in reference to organizational knowledge catalysts, institutional leaders could purposively create careers for pedagogical change agents and embed them into positions that out of necessity require brokering and boundary crossing. In order to avoid incongruence between formal and informal organizational development activities (see also Pielstick 2000), universities are encouraged to ensure that their pedagogical vision is shared and discussed also among those academics that do not have an institutional developer or decision-making position.

Universities may be well advised to place more emphasis on pedagogical development as a community endeavour rather than a task of individual teachers in a context of their own courses or an isolated responsibility of institutional leaders and professional developers (Knight & Trowler 2000). Instead of increasing the autonomy of departments to make independent decisions on how to organize their teaching, universities should increase the degree of pedagogical collaboration across

organizational and disciplinary boundaries. Reframing pedagogical development as a shared task of pedagogical and discipline-specific communities paves the way for establishing more proactive, integrated, and adaptive ways of developing the quality of teaching in higher education (see also Adams & Felder 2008).

References

- Adams, R. & R. Felder. 2008. Reframing professional development: A systems approach to preparing engineering educators to educate tomorrow's engineers. *Journal of Engineering Education*, 97(3): 239–240.
- Akkerman, S. & A. Bakker. 2011. Boundary crossing and boundary objects. *Review of educational research*, 81(2): 132–169.
- Andresen, L. 2000. Teaching development in higher education as scholarly practice: a reply to Rowland et al. 'Turning Academics into Teachers?'. *Teaching in Higher Education*, 5(1), 23–31.
- Annala, J., & Mäkinen, M. 2017. Communities of practice in higher education: contradictory narratives of a university-wide curriculum reform. *Studies in Higher Education*, 42(11), 1941-1957.
- Bass, B., B. Avolio, D. Jung, & Y. Berson. 2003. Predicting unit performance by assessing transformational and transactional leadership. *Journal of applied psychology*, 88(2): 207–218.
- Brew, A. 2002. Research and the academic developer: A new agenda. *International Journal for Academic Development*, 7(2): 112–122.
- Caldwell, R. 2003. Models of change agency: a fourfold classification. *British Journal of Management*, 14(2): 131–142.
- Cermák, I. 2004. “Genres” of life-stories. In D. Robinson, C. Horrocks, N. Kelly, & B. Roberts, (Eds.) *Narrative, memory and identity: Theoretical and methodological issues* (pp. 211-221). University of Huddersfield: Huddersfield.
- Cox, M. 2013. The impact of communities of practice in support of early-career academics. *International Journal for Academic Development*, 18(1), 18–30.
- Doring, A. 2002. Challenges to the Academic Role of Change Agent. *Journal of Further and Higher Education*, 26(2): 139–148.

- Finnish Advisory Board on Research Integrity. 2009. *Ethical principles of research in the humanities and social and behavioural sciences and proposals for ethical review*. Helsinki. Retrieved from <http://dev.tenk.fi/sites/tenk.fi/files/ethicalprinciples.pdf> on June 19, 2013.
- Gibbs, G., C. Knapper, & S. Piccinin. 2008. Disciplinary and contextually appropriate approaches to leadership of teaching in research-intensive academic departments in higher education. *Higher Education Quarterly*, 62(4): 416–436.
- Ginns, P., J. Kitay, & M. Prosser. 2010. Transfer of academic staff learning in a research-intensive university. *Teaching in Higher Education*, 15(3): 235–246.
- Hannah, S. & P. Lester. 2009. A multilevel approach to building and leading learning organizations. *The Leadership Quarterly*, 20(1): 34–48.
- Harman, G. & Harman, K. 2003. Institutional mergers in higher education: Lessons from international experience. *Tertiary Education and Management*, 9(1), 29–44.
- Ho, A. (2000). A conceptual change approach to staff development: A model for programme design. *The International Journal for Academic Development*, 5(1): 30–41.
- Knight, P. & P. Trowler. 2000. Department-level cultures and the improvement of learning and teaching. *Studies in Higher Education*, 25(1): 69–83.
- Louvel, S. 2013. Understanding change in higher education as bricolage: how academics engage in curriculum change. *Higher Education*, 66(6): 669–691.
- McGrath, C. 2017. *What we talk about when we talk about change: a study of change practice and change agency in higher education*. Doctoral dissertation. Karolinska Institutet, Sweden.
- Meyer, M. 2010. The rise of the knowledge broker. *Science Communication*, 32(1): 118–127.
- Mårtensson, K. 2014. *Influencing teaching and learning microcultures. Academic development in a research-intensive university*. Doctoral dissertation. Lund University, Lund.
- Mårtensson, K. & T. Roxå. 2016. Leadership at a local level—Enhancing educational development. *Educational Management Administration & Leadership*, 44(2), 247–262.
- Nersessian, N. 2006. The cognitive-cultural systems of the research laboratory. *Organization Studies*, 27(1): 125–145.

- Remmik, M., M. Karm, A. Haamer, & L. Lepp. 2011. Early-career academics' learning in academic communities. *International Journal for Academic Development*, 16(3): 187–199.
- Roche, V. 2001. Professional development models and transformative change: A case study of indicators of effective practice in higher education. *The International Journal for Academic Development*, 6(2): 120–129.
- Roxå, T. & K. Mårtensson. 2009. Significant conversations and significant networks—exploring the backstage of the teaching arena. *Studies in Higher Education*, 34(5), 547–559.
- Smyth, R. 2003. Concepts of change: Enhancing the practice of academic staff development in higher education. *International Journal for Academic Development*, 8(1/2): 51–60.
- Trowler, P. & A. Cooper. 2002. Teaching and learning regimes: Implicit theories and recurrent practices in the enhancement of teaching and learning through educational development programmes. *Higher Education Research & Development*, 21(3), 221–240.
- Warhurst, R. 2006. “‘We Really Felt Part of Something’”: Participatory learning among peers within a university teaching-development community of practice. *International Journal for Academic Development*, 11(2), 111–122.
- Warhurst, R. 2008. ‘Cigars on the flight-deck’: new lecturers’ participatory learning within workplace communities of practice. *Studies in Higher Education*, 33(4): 453–467.
- Wenger, E. 1998. *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.
- Wenger, E. 2000. Communities of practice and social learning systems. *Organization*, 7(2): 225–246.
- White, M. & E. Marsh. 2006. Content analysis: A flexible methodology. *Library Trends*, 55(1): 22–45.

List of tables and figures

Table 1. Change agency as brokering in communities of practice (modified from Wenger 1998)

Table 1. Change agency as brokering in communities of practice (modified from Wenger 1998).

Focus of brokering	Act of brokering
Practices	Creating boundary practices Translating, coordinating, and promoting alignment between perspectives
Meanings	Negotiation of meaning by utilizing techniques of participation and reification
Identities	Increasing identification through participation Negotiation of competence and experience
Ways of belonging to the community	Promoting mutual engagement, imagination, and alignment to the joint enterprise and shared repertoire Expanding the variety of legitimate forms of participation

Figure 1. Analysis of the community-level development efforts

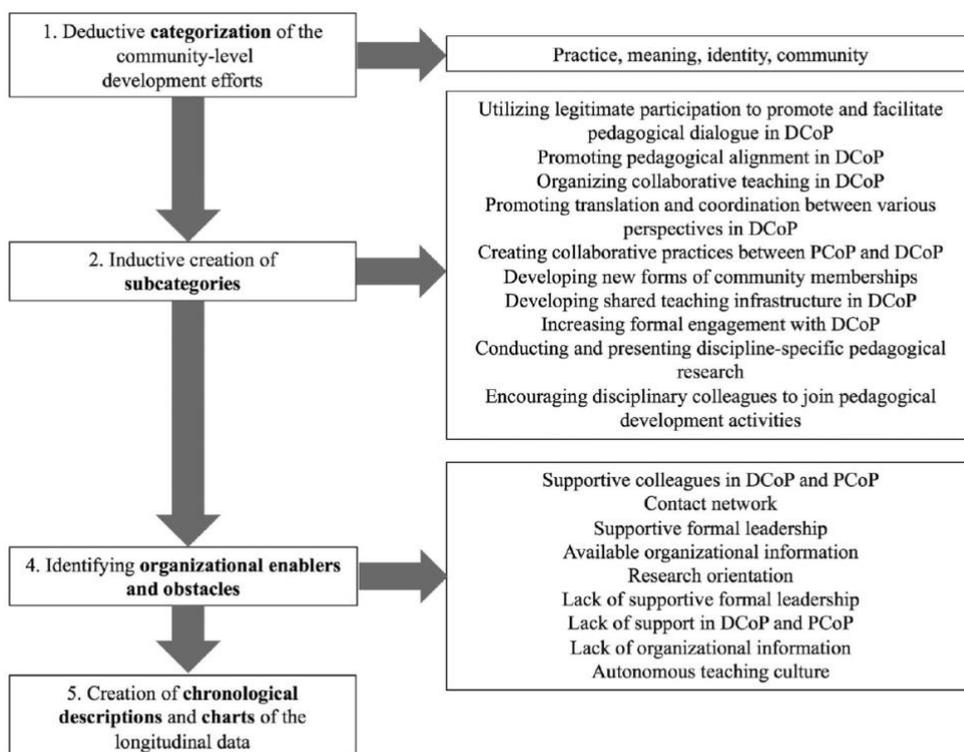


Figure 1. Analysis of the community-level development efforts.

Figure 2. Activities and influential organizational factors of change agency at the interfaces of pedagogical (PCoP) and discipline-specific (DCoP) communities of practice

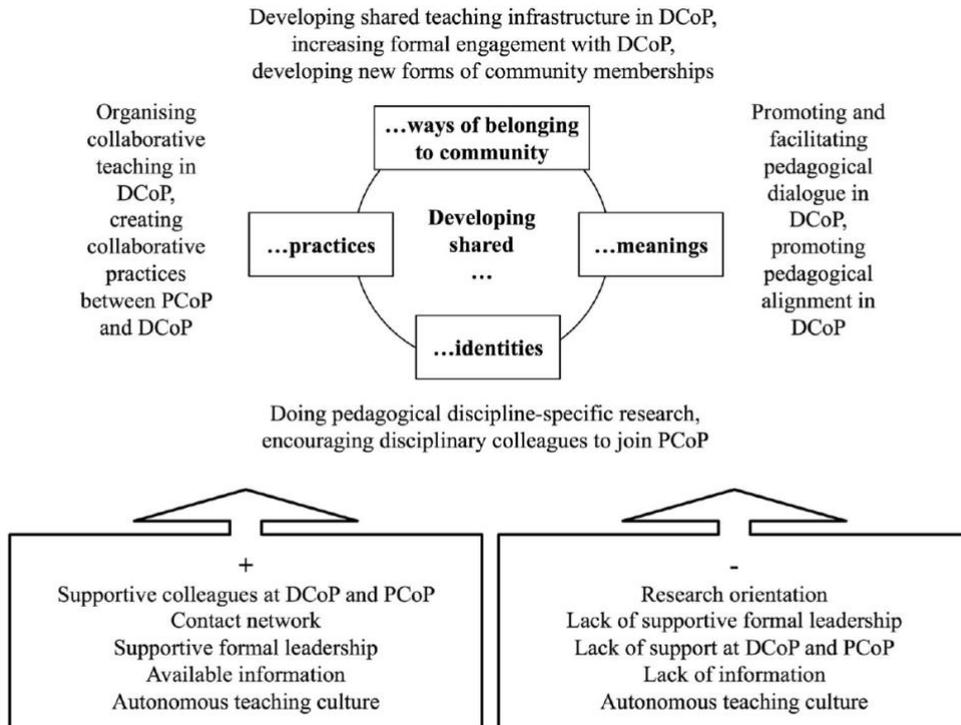


Figure 2. Activities and influential organizational factors of change agency at the interfaces of pedagogical (PCoP) and discipline-specific (DCoP) communities of practice.

Figure 3. Focus of change agent activities in 2011–2013 (number of descriptions is presented in parentheses)

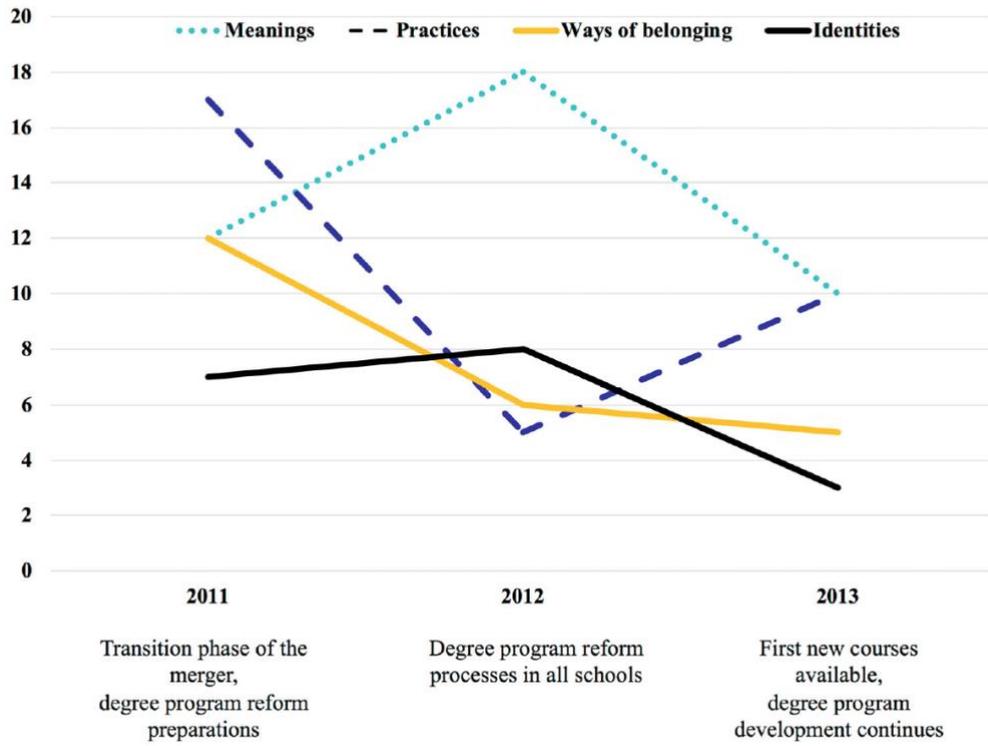


Figure 3. Focus of change agent activities in 2011–2013.

Figure 4. Organizational enablers of change agent activities in 2011–2013

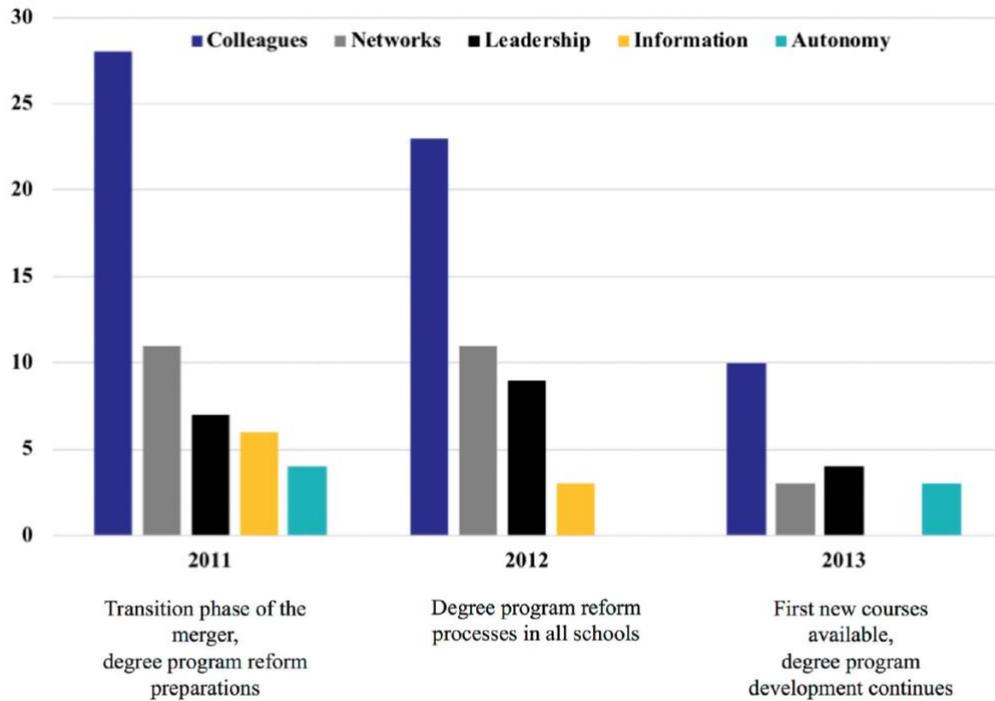


Figure 4. Organizational enablers of change agent activities in 2011–2013.

Figure 5. Organizational obstacles of change agent activities in 2011–2013

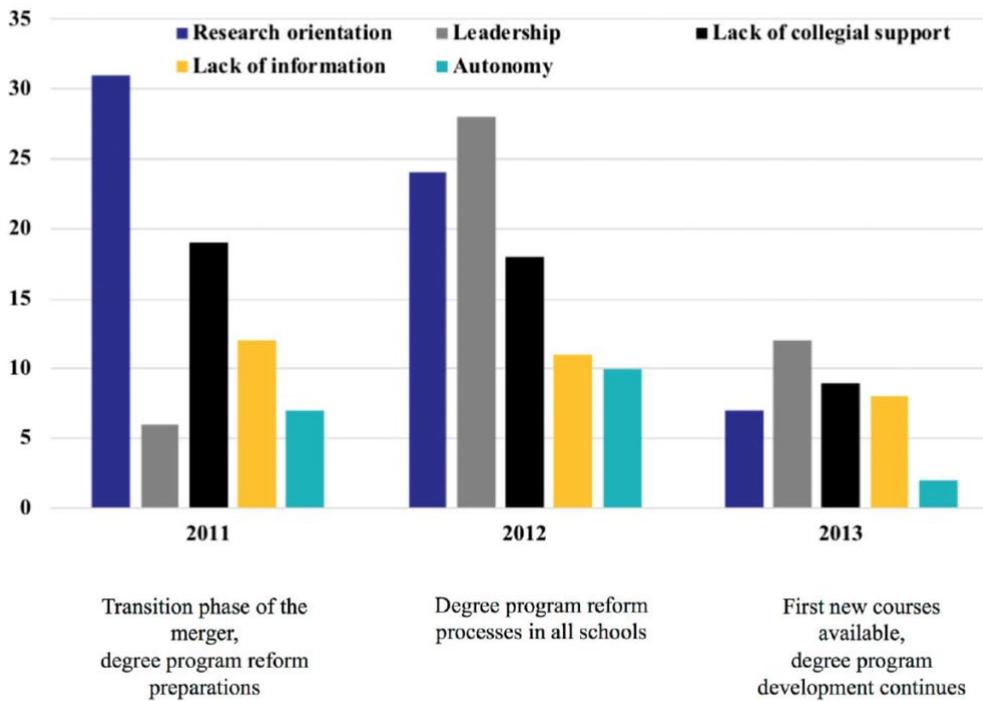


Figure 5. Organizational obstacles of change agent activities in 2011–2013.

