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**TEACHERS CHANGING
HIGHER EDUCATION**
FROM COPING WITH CHANGE
TO EMBRACING CHANGE

Irma Kunnari

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Irma Kunnari

Teachers changing higher education – from coping with change to embracing change

Abstract

This dissertation explored higher education teachers' experiences in developing their professional practices and how change can be achieved successfully. The pedagogical development process in one university of applied sciences was the context of three sub-studies, which investigated teachers' experiences utilizing strength-focused theoretical constructs, following the positive approach. This study also served the development of competence-based higher education, and the more specific focuses for the sub-studies were driven from the field. The data for this qualitative and practice-based study were collected using interviews and questionnaires.

Study 1 investigated the socio-psychological wellbeing for learning constructed in teacher-student relationship. Fifteen experienced teachers were interviewed when developing their guidance practices. The focus was on teachers' optimal pedagogical practices facilitating socio-psychological wellbeing in terms of building students' feelings of relatedness, competence and autonomy. The findings describe teachers' holistic approach to guidance and how they consciously facilitated students' socio-psychological wellbeing by attuning their pedagogical practices according to the needs of students. The teachers also felt that this had an impact on their own wellbeing.

Study 2 focused on teachers' needs for successful change in the phase of educational innovation in integrating research, development and innovation (RDI) activities into learning. Altogether 46 teacher-developers' experiences related to the sources of enthusiasm and interest as well as the support needed were studied using a questionnaire. The main source of interest and enthusiasm for teachers was social interaction and networking, but rigid structures and traditional practices made collaboration difficult to organize. The findings also indicated that the teachers' changing and challenging environment offers opportunities to learn and develop, but simultaneously the facilitation of the teachers' feelings of relatedness, competence and autonomy is needed.

In *Study 3* the implementation of traditional courses and subjects were transformed to integrated competence-based learning entities and teachers were organized to work as teams. To deepen the understanding of how teachers can find successful ways to work and manage in the change, the perspective was broadened to a group level by exploring teacher teams' experiences about their collective

efficacy and resilience in developing new collaborative practices. Five teacher teams' experiences were collected using team interviews and individual follow-up questionnaires. The findings indicated that increased teacher collaboration had a positive impact on managing the change. The teacher teams experienced trust in overcoming challenges as well as collective agility and flexibility; this supported collective efficacy and resilience within the team. Students' motivation and engagement encouraged teachers to craft their professional practices, but time management and workload made it more difficult. The challenges in creating new practices created an opportunity for teacher teams to overcome and develop together.

The findings of this study suggested that the successful change in the higher education teachers' professional practices is based on their capacity to craft their job. Teachers can learn new practices while developing them. They can improve the fit between their own personal way of working and the continuously evolving environment by crafting their work in a flexible and creative way. They can build new kinds of relationships with their students and colleagues based on trust, relatedness and connectedness. They can find new focuses on what tasks in their work are the most essential ones and what tasks need to be put aside as time-management is a challenge. They also need to change the way they think about their job, relying on collaboration and networking. To embrace this change, teachers need to be considered as learners themselves and the ownership of development must be in their own hands to sustain engagement. Teachers with a variety of competences can collaboratively craft their work to be meaningful, but the organizational frame must prevent fragmentation and give value to innovativeness and creativity.

Keywords: Higher education, universities of applied sciences, teacher learning, pedagogical change, educational innovation, practice-based research

Irma Kunnari

Ammattikorkeakouluopettajat oman työnsä kehittäjinä

- Pelkkää selviytymistä vai muutoksesta innostumista?

Tiivistelmä

Väitöskirjassa tutkittiin ammattikorkeakouluopettajien kokemuksia oman työnsä kehittämisestä sekä siitä miten onnistunut muutos saavutetaan. Ammattikorkeakoulun pedagoginen kehittäminen muodosti työn kontekstin kolmelle osatutkimukselle, joissa opettajien kokemuksia analysoitiin hyödyntäen positiivisen ähestymistavan vahvuuksiin keskittyviä teoreettisia käsitteitä. Tutkimus palveli myös osaamisperustaisen korkeakoulutuksen kehittämistä ja tarkemmat painopisteet osatutkimuksille johdettiin käytännön kehittämistyöstä. Tämän laadullisen ja käytäntölähtöisen tutkimuksen aineisto kerättiin haastatteluin ja kyselylomakkein.

Osatutkimuksessa 1 tutkittiin opettajien kokemuksia sosio-psykologisen hyvinvoinnin rakentumisesta opettaja-opiskelijasuhteessa. Viittätoista opettajaa haastateltiin siitä, miten he kehittivät omaa ohjaustyötään. Tutkimuksessa keskityttiin opettajien optimaalisiin pedagogisiin käytänteisiin sosio-psykologisen hyvinvoinnin luomisessa eli opiskelijoiden yhteenkuuluvuuden, kompetenssin ja autonomian tunteiden vahvistamisessa. Tulokset kuvaavat opettajien holologista otetta ohjaukseen sekä pedagogisia käytänteitä, joiden avulla he tietoisesti tukivat opiskelijoiden sosio-psykologista hyvinvointia oppimisessa ja sovittivat toimintansa opiskelijoiden tarpeiden mukaan. Opettajat kokivat, että tällä oli vaikutusta myös heidän omaan hyvinvointiinsa.

Osatutkimuksessa 2 keskityttiin opettajien omiin tarpeisiin onnistuneen muutoksen aikaansaamiseksi. Koulutuksellinen innovaatio ammattikorkeakoulun TKI (tutkimus, kehittäminen, innovaatio)- toiminnan ja oppimisen integroimiseksi muodosti tutkimuksen kontekstin. Yhteensä 46 kehittäjäopettajan kokemukset innostuksen ja kiinnostuksen lähteistä sekä tuen tarpeista kerättiin kyselylomakkein. Merkittävin kiinnostuksen ja innostuksen lähde opettajilla liittyi sosiaaliseen vuorovaikutukseen sekä verkostoitumiseen, mutta jäykät rakenteet ja perinteiset käytännöt vaikeuttivat yhteistyön organisointia. Tulokset osoittivat, että muuttuva ja haastava ympäristö tarjoaa opettajille mahdollisuuden oppia ja kehittyä, mutta samalla opettajien yhteenkuuluvuuden, kompetenssin ja autonomian tunteita on tuettava.

Osatutkimuksessa 3 perinteisten opintojaksojen ja oppiaineiden opetus muutettiin integroiduiksi osaamisperustaisiksi oppimiskokonaisuuksiksi, joiden toteutuksesta vastasivat opettajatiimit. Tutkimuksen tavoitteena oli

syventää ymmärrystä opettajien onnistuneista käytänteistä sekä muutoksen hallinnasta. Näkökulmaa laajennettiin ryhmätasolle tutkimalla opettajatiimien kokemuksia kollektiivisesta kyvykkyydestä sekä resilienssistä osana uudenlaisen yhteistoiminnallisen työtavan kehittämistä. Viiden opettajatiimin kokemukset kerättiin sekä tiimihaastatteluin että yksilöllisin kyselyin. Opettajien kokemusten mukaan lisääntynyt yhteistyö paransi muutoksessa selviämistä. Opettajatiimien luottamus

kykyinsä vastata haasteisiin sekä kollektiivinen ketteryys ja joustavuus lisäsivät tiimien kyvykkyyttä sekä resilienssiä muutoksessa. Opiskelijoiden motivaatio ja sitoutuneisuus kannustivat opettajia muokkaamaan ammatillisia käytänteitään, mutta ajanhallinnan ongelmat sekä liiallinen työkuorma vaikeuttivat tätä. Opettajien kokemusten mukaan haasteet uusien käytänteiden kehittämisessä loivat tiimeille mahdollisuuden kehittyä yhdessä.

Väitöskirja osoittaa, että onnistunut muutos ammattikorkeakouluopettajien työssä perustuu opettajien kykyyn muokata omia ammatillisia käytänteitään. Kyky luovuuteen ja joustavuuteen mahdollistaa uusien käytänteiden oppimisen niitä kehitettäessä. Muutoksen onnistumiseksi opettajat voivat vahvistaa yhteistyötä ja luottamusta opiskelijoiden ja kollegoiden muodostamissa yhteisöissä. He voivat valita mihin asioihin erityisesti keskittyvät ja mistä tehtävistä voi olla syytä luopua, sillä aika on rajallista. Opettajat voivat myös muuttaa omia ajattelutapojaan oman työnsä luonteesta nojautuen entistä enemmän yhteistyöhön ja verkostoitumiseen. Opettajien innostus ja sitoutuneisuus muutokseen perustuu ajatukseen, että opettajakin nähdään oppijana, jolla on omistajuus omaan oppimiseensa. Osaamiseltaan erilaiset opettajat voivat muokata yhteistoiminnan kautta omaa työtään merkitykselliseksi, mutta ammattikorkeakoulun on vältettävä opettajan työn liiallista pirstaloitumista sekä annettava tilaa innovatiivisuudelle ja luovuudelle.

Avainsanat: Ammattikorkeakoulutus, opettajien oppiminen, pedagoginen muutos, koulutuksellinen innovaatio, käytäntölähtöinen tutkimus

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At home in Helsinki, June 2018

Irma

LIST OF ORIGINAL PUBLICATIONS

This doctoral dissertation is based on the following original publications, which are referred to in the text by their numbers (*Studies 1 – 3*):

Study 1

Kunnari, I. & Lipponen, L. (2010). Building teacher – student relationship for wellbeing. *Lifelong Learning in Europe*. Volume XV, issue 2/2010, 63-71.

Study 2

Kunnari, I. & Ilomäki, L. (2016). Reframing teachers' work for educational innovation. *Innovation of Education and Teaching International*, 53, (2), 167-178.

Study 3

Kunnari, I.; Ilomäki, L. & Toom, A. (2018). Successful Teacher Teams in Change – the Role of Collective Efficacy and Resilience. *International Journal of Teaching and Learning in Higher Education*. Vol. 30, Number 1, 111- 126.

1 INTRODUCTION

Teachers' professional practices in higher education worldwide have been challenged to better support students' development for a rapidly changing society and the world of work. The knowledge society and globalized world pose challenges and expectations on higher education (Aggarwal, 2011, Goodyear & Zenios, 2007), and new technology entails qualitative changes in work practices (e.g., Bernardo, 2007, Paavola, Lakkala, Muukkonen, Kosonen, & Kalgren, 2011). Drivers like social technologies, new communication tools, the rise of smart machines and systems, as well as increased global connectivity reshapes 'how we think about work, what constitutes work, and the skills we will need to be productive contributors in the future' (Davies, Fidler, & Gorbis, 2011). In a continuously changing world, existing professions are evolving, and new professions generated; for instance, outsourcing and entrepreneurship require competences, which typically are not taught in higher education (EU, 2010). The importance of transferable skills and learning skills, like communication, collaboration, creativity, critical thinking and problem solving have been identified in many studies and policy papers (Ananiadou & Claro, 2009; European Commission, 2016; Leopold, Vesselina, & Zahidi, 2016; Trilling & Fadel, 2009; Voogt, Erstad, Dede, & Mishra, 2013). These demands challenge higher education institutions and teachers to rethink their professional practices and improve the quality of teaching to effectively support students to acquire relevant competences (European Commission, 2007; Darling-Hammond & Bransford, 2007; Hénard & Roseveare, 2012; Toom, 2012). In developing their practices, higher education institutions and teachers are required to move towards a collaborative knowledge construction culture instead of relying on an individual knowledge construction culture of learning (Hakkarainen, Palonen, Paavola, & Lehtinen, 2004; Lonka, 2015). The collaborative knowledge construction culture is not limited to teachers' professional practices with students, but also takes into account the whole 'learning ecosystem' within educational institutions with colleagues and other staff, as well as with their networks with society and the world of work. This change entails a new type of understanding about teachers' meaningful professional practices and how to continually develop them. How could teachers embrace the change?

This dissertation investigates higher education teachers' experiences and professional development in their changing work when developing new pedagogical practices. The main interest is in how teachers can create optimal practices, and what the conditions are for success in implementing student-centered and competence-based higher education. The focus is on teachers' own experiences in

how they can successfully change and craft their professional practices, which they feel important for their students learning and for their own professional success.

Correspondingly in Finnish higher education, teachers' stable working environment has transformed because of the combination of globalization, internationalization as well as better psychological and sociological understanding of learning processes (Taatila, 2017). In higher education sector in Finland, polytechnics (currently called as universities of applied sciences, UAS) were established in the middle of the 1990s. Since then, two kinds of universities have existed: the traditional academic research university, and the practice-based UAS, whose mission is to provide higher education for professional expert jobs based on the requirements of work life and its development. Further, a UAS's aim is to support the professional growth of students, and offer RDI (research, development and innovation) services for workplaces in the region. The UAS have extensive autonomy and freedom in education and research (Ministry of Education and Culture, n.d.). Therefore, these statutory tasks have created a special context for professional higher education, which offers the possibilities to integrate the development of world of work and students' learning (e.g., Pirinen, 2008; Auvinen, 2004) and follow the European Commission's guidelines for modernization of higher education (European Commission, 2011, 2014). UAS teachers' work has diversified and expanded outside traditional teaching work causing the work to be more demanding but at the same time more interesting (Auvinen, 2004).

In a UAS, the development of teachers' professional practices and education in general has been a continuous process supported by many national development projects. In these projects, there has been a lot of national collaboration and numerous publications created in networks. Projects have related to, for instance, developing teachers' work (e.g., Töytäri-Nyrhinen, 2008), connections between R&D (research & development) and learning (e.g., Toivola, 2010), competency-based curriculum (e.g., Kullaslahti & Yli-Kauppila, 2014), students' guidance practices (e.g., Kunnari & Niinistö-Sivuranta, 2013), and improving pedagogical solutions (e.g., Kotila & Mäki, 2015). Their titles and special focuses have changed, but throughout these years, the ultimate goal has been to develop student-centered, learning-focused and practice-based professional higher education. What all the projects have had in common was the challenge to change the traditional role of the teacher as an information transmitter to a facilitator of learning, changing traditional classrooms as main learning environments towards more open and practice-based learning environments, and to change the individual orientation to learning and working becoming more collaborative and networked. However, it seems that there is still a way to go. In UAS teachers' work, two working cultures were identified: a teaching-centered and substance-oriented working culture, and a working culture that involves conflicts and contradictory interpretations of UAS work, but which also highlights collaboration and student-centeredness (Mäki,

2012). These twofold cultures can reflect a changing paradigm in education, but also reveal the need for further development.

My thesis is closely connected to my work as a teacher educator and pedagogical developer, in Häme University of Applied Sciences (HAMK). During the 25 years I have been educating vocational and professional teachers from a variety of fields in education, I have been closely observing teachers' work and learning in different contexts. In addition, my work as a pedagogical developer in terms of coordinating and implementing pedagogical development projects nationally and within my own university, has offered a unique place to learn what type of challenges teachers are experiencing when trying to meet a variety of demands based on students' needs and the needs of continuously changing the world of work. It has also raised questions on how teacher learning can be best supported because there is a continuous need for teachers to adapt and develop their personal and collective competences.

In HAMK, the overall aim of pedagogical development has been to strengthen student-centered and competence-based education (CBE), which is the term generally used to emphasize the special characteristics of UAS pedagogy. It emphasizes that the ultimate goal of learning is to develop competences relevant for the professions and rapidly changing work life, instead of solely focusing on traditional subjects or discipline-specific knowledge and skills. Furthermore, CBE refers to the need to organize learning processes according to targeted competences, which are relevant for the current and future world of work. Biggs and Tang (2007) highlight the idea of constructive alignment, in which the learners themselves construct knowledge, and in which the learning and assessment practices, as well as learning environments, need to be aligned with the targeted learning outcomes in the curriculum. In order to build this alignment, there is a need to take the whole "learning infrastructure" into account. So, not just the pedagogical practices themselves, but also the frame; like how teachers' work is organized and how the higher education institute collaborates with the world of work. In this dissertation, teachers' experiences of their professional practices, pedagogical practices with the students and the work practices with their colleagues in the educational environment, are both studied.

Even though the concept of CBE is sometimes blurred, Koenen, Dochy and Berghmans (2015) have found some common characteristics, which illustrate CBE: realistic tasks and authentic settings, students' own responsibility of the learning process, reflection of learning by students, teachers' facilitating role, and competence-based assessment methods. They also highlight the demand-driven education, instead of fixed and supply driven education, which characterizes the continuously evolving nature of education in a UAS, as well. The new kind of organization of learning processes entails many changes in teachers' working environment: not only changes in pedagogical practices and relationships with students, but also changes in teachers' work practices with colleagues and in the

frame, which regulates their work. These changes, when implementing student-centered and learning-focused CBE, challenge teachers to build a new type of person – environment fit (see Eccles, 2008; Edwards, Caplan, & Harrison, 1998; Pyhältö, Pietarinen, & Salmela-Aro, 2011) between their personal way of ‘being a teacher’ and their working environment to sustain wellbeing and engagement. This highlights the importance of teacher learning.

According to personal experiences and supported by research, the most successful approach in educational development is to integrate teacher development and organizational development (e.g., Clarke & Hollingsworth, 2002; Edwards, 2005; Fullan, 2005, 2016; Giles & Hargreaves, 2006). Teachers need to be learners themselves, as well as active agents in their own learning in the continuously changing environment. The relationship of an educational institution and teacher development is reciprocal, as individual teacher learning contributes to the development of institutions and vice versa (e.g., Imants, & Van Veen, 2010). Further, these experiences show that facilitating teacher learning and focusing on strengths and possibilities, has been more successful approach, than just solving the problems. However, as some teachers face the changes with eagerness and inspiration, some are more confused or resistant to transform their traditional ways of working. The driving force for my motivation in this dissertation has been to understand how teachers, as key agents in providing high quality education, can find ways to develop and feel satisfied in their jobs, in spite of or even because of all these changes. I want to follow this statement of philosopher Immanuel Kant, when reflecting teacher development:

‘The end of education is to develop, in each individual, all the perfection of which he is capable.’

Teachers need to cultivate students’ development towards their personal ‘perfection’, but teachers’ own development need to be considered from this perspective as well. Therefore, even though the focus in this dissertation is not formal teacher education, but more like teachers’ continuing professional learning and acting successfully in their changing work environment, this philosophical statement encouraged me to investigate: How can teachers find their own ways to flourish and bring out the best in their work with their students and with their colleagues?

1.1 Teacher learning in the context of pedagogical change

There is not any single theory that comprehensively describes teacher learning and professional development, as it is a complex phenomenon and depends on different approaches (Kennedy, 2016; Opfer & Pedder, 2011). For example, in the interconnected and non-linear model of teachers’ professional growth, from

Clarke and Hollingsworth (2002), teacher development is presented as mediating processes of 'reflection' and 'enactment' in four domains that constitute the teachers' world: the personal domain (teacher knowledge, beliefs, and attitudes), the domain of practice (professional experimentation), the domain of consequence (salient outcomes), and the external domain (sources of information, stimulus or support). This model emphasizes the individuality of every teacher's learning and practice, as there are multiple growth pathways between the domains. Teacher learning is not limited to formal professional development, but takes place in all the arenas in which the teacher participates: the classroom, the community of teachers, and the school environment. In the context of educational innovation, Bakkenes, Vermunt and Wubbels (2010) found there were large individual differences among experienced secondary school teachers in the learning activities they employ. They discovered the following approaches: learning by experimenting, considering own practice, getting ideas from others, experiencing friction, struggling not to revert to old ways and avoiding learning. They also identified more overarching teachers' approaches to learning: integrated, separated and struggling approaches, each being oriented towards either meaning or immediate performance.

Teacher learning studies are mostly concentrated on primary and secondary school teachers (e.g., Bakkenes, et al., 2010; Lieberman & Pointer Mace, 2008; Ilomäki, Lakkala, Toom, & Muukkonen, 2017; Lam, Cheng, & Choy, 2010) and some studies related to vocational teachers (e.g., Messmann & Mulder, 2011). In the context of higher education, teacher development has been studied, for example, when related to teachers' approaches to teaching (Lindblom-Ylänne, Trigwell, Nevgi, & Ashwin, 2006; Postareff, 2007; Postareff, Katajavuori, Lindblom-Ylänne, & Trigwell, 2008), the effect on pedagogical training on teaching (Postareff, Lindblom-Ylänne, & Nevgi, 2007), online teacher competence development (Kullaslahti, 2011), the impact of teachers' reflection on action (Mälkki & Lindblom-Ylänne, 2012), self-regulation in teacher learning (Van Eekelen, Boshuizen, & Vermunt, 2005), teachers' conceptual change process in transition from classroom to web-based courses (Mällinen, 2007), and the role of emotions and confidence in pedagogical training (Postareff & Lindblom-Ylänne, 2011). However, there is still a need to understand teachers' experiences more deeply, as the context of UAS education is changing rapidly. In a recent large-scale study of UAS teachers' learning in Finland, Töytäri, Piirainen, Tynjälä, Vanhanen-Nuutinen, Mäki and Ilves (2016) found the following four categories of how teachers described their learning: Individual learning reflecting knowledge acquisition from written and audiovisual material; Collegial learning reflecting learning with another person constructing knowledge through dialogue; Team learning in which the collective problems of the group are solved working together; and Innovative partnership learning as a co-creation and collaborative innovation in research, development

and workplace relations. These categories 'can also be seen to show a process of developmental change in teachers' learning experiences' (Töytäri, et al., 2016).

In this dissertation, the focus is to explore teachers' experiences in developing their professional practices. These experiences can be considered to reflect teachers' professional development and learning, as well as teachers' professional growth, which according to Clarke and Hollingsworth (2002) refers to longer-lasting change. I rely on the sociocultural and socio-constructivist views about learning (e.g., Lave & Wenger, 1991; Salomon & Perkins, 1998; Vygotsky, 1978), and consider teacher learning and development as a dynamic interplay between a teacher and their changing working environment. Therefore, individual learning cannot be separated from organizational learning, and teacher learning is related to teachers' capacity to interpret their worlds in increasingly complex ways and being able to respond to those interpretations (Edwards, 2005). Teacher learning is not just an individual process, but an active and collaborative one (Voogt, Westbroek, Handelzalts, Walraven, McKenney, Pieters, & De Vries, 2011). The development of teachers in the change entails successful interplay between teachers and their working environment, consisting of students, colleagues, other stakeholders from the world of work, and how the teachers' work is organized.

In previous studies about teacher learning in the context of change the importance of teacher collaboration has been noticed (e.g., Imants & van Veen, 2010; Lam, et al., 2010; Lieberman & Pointer Mace, 2008; Messmann & Mulder, 2011; Smith, 2012). Reflection and enactment during collaborative curriculum design activities in teacher teams influenced job satisfaction and teacher self-confidence, and helped teachers to change their beliefs, particularly concerning their perception of 'good teaching' and 'being a good teacher' (Voogt, et al., 2011). Effective teacher learning, which takes into account the variability of how teachers teach, and students learn, can be achieved by creating conditions for teachers to teach each other, support their peers, and deepen their knowledge about their students together (Lieberman & Pointer Mace, 2008).

In addition, developing education and pedagogical practices means reciprocal interaction between the teacher and the environment. Social context and individual motivation are connected and interacting with each other (Ryan & Deci, 2000). It can be assumed, when teachers feel well and are engaged in their work, they are more likely to build such meanings about the new pedagogical practices and the change that promote their progress; on the other hand, negative emotions towards the change may narrow the attention (Fredrickson, 2001) and make the teachers to concentrate only on performing in the familiar and traditional style. A teacher's motivation to work for changes is based on receiving social support from colleagues and supervisors and having a stimulating climate for innovation, which also creates a social norm that innovative work is appreciated (Messmann & Mulder, 2011). According to Vermunt, Bakkenes, Wubbels, and Brekelmans (2008), the most

appropriate approach to teacher learning in the context of adapting innovation, is an integrated meaning-oriented approach, where teachers combine new ideas with their current practice, think about the underlying reasons why things work as they work, and try to create their own personal theory of practice. To be able to succeed in the change, it is important to cultivate the feeling of ownership teachers experience about the innovations they are expected to implement (Smith, 2012; Van Eekelen, Vermunt, & Boshuizen, 2006). Teachers need to feel responsible for crafting their jobs themselves, not merely following ready-made scripts.

Koenen et al. (2015) argue that 'a competence-based institution should function as a learning organization that is constantly evolving in response to an ever changing and increasingly complex professional practice'. Schools as learning organizations are professional learning communities for teachers; where 'restructuring, reculturing, and retiming' need to be addressed for teachers to develop (Fullan, 2005). In this kind of environment, teacher learning can be described as expansive, when teachers need to learn new forms of activity, which are not yet there, but they are learned as they are being created (Engeström, 2001). Teachers' continuous workplace learning can be considered as creating new modes of action, new practices and new procedures, which according to Tynjälä (2008) happens by doing the job itself, through co-operating and interacting with colleagues, through working with clients, by tackling challenging and new tasks, by reflecting on and evaluating one's work experiences, through formal education, and through extra-work contexts.

Furthermore, teachers' learning can be approached with the concept of job crafting, which explicitly focuses on employee job redesign (Wrzesniewski & Dutton, 2001). In job crafting, employees independently modify aspects of their jobs to improve the person-environment fit between the characteristics of the job and their own needs, abilities, and preferences (Berg, Dutton, & Wrzesniewski, 2013). Wrzesniewski and Dutton (2001) specify three types of job crafting. Firstly, employees may craft their tasks by taking on more or different tasks. Secondly, employees may craft their working relationships by changing the ways in which they interact with others at work. Thirdly, employees may engage in cognitive crafting and change the ways in which they think about their job. All these types are needed in a continuously changing working context, because in teacher learning, teachers' and their workplace interaction mediates a context- dependent participatory process of an active knowledge construction and co-creation of new practices (Lave & Wenger, 1991; Salomon & Perkins, 1998; Vygotsky, 1978; Wertsch, 1991).

1.2 Strength-focused concept in analyzing teachers' experiences

In the work of higher education teachers, the need to change personal ways of teaching, guiding and organizing learning environments has been vital and sometimes there has been a lot of confusion among teachers on what are the most successful ways to work. The normal functioning of human beings cannot be accounted for within purely negative or problem-focused frames of reference (Sheldon & King, 2001). According to Fredrickson and Losada (2005), positivity, by prompting approach and exploration, creates experiential learning opportunities that either support or challenge initial expectations and negativity works in the other direction. They also suggest that positive affect—by broadening exploratory behavior in the moment—over time builds more accurate cognitive maps of what is good and bad in the environment. Teachers have many possibilities of how they perceive the changes, and how they themselves see their opportunities to craft their work for success. The interplay between individual teachers and their working context forms the frame, in which teachers need to have the capacity to develop and learn continuously. However, teachers' willingness for continuous development in their work cannot be taken for granted (Van Eekelen, Vermunt & Boshuizen, 2006). Therefore, it is important to understand how teachers experience and interpret their changing environment and how they manage to create successful practices.

In a continuously changing environment, some teachers experience the changes as threats and others perceive them as opportunities to grow and cultivate their skills (e.g., Labbas & El Shaban, 2013). Thus, the approach to challenges and problems cannot be taken as self-evident, but there is a need to make teachers' experiences transparent. In previous studies on wellbeing and development in work, the distinction between job demands have been identified, as challenging demands have been found to be related to positive outcomes and hindering demands to negative outcomes (Bakker & Demerouti, 2007; Van den Broeck, De Cuyper, De Witte, & Vansteenkiste, 2010). Although challenging demands require an extra effort to meet, employees react positively to them (Tims, Bakker, & Derks, 2013). These kinds of demands enable teachers to overcome themselves and create innovative solutions. Hindering job demands, in contrast, are appraised as stressful because they unnecessarily thwart personal growth and goal attainment, as well as hinder optimal functioning (LePine, Podsakoff, & LePine, 2005). Employees initially attempt to withstand these hindering demands, sometimes by investing more resources.

During recent years, there has been a growing interest in applying the principles of positive psychology into the development of individuals (Ryff & Singer, 2000; Seligman & Csikszentmihalyi, 2000, Sheldon & King, 2001), as well as in the organizational level, where approaches like positive organizational behavior (POB),

positive organizational scholarship (POS) and positive psychology in the workplace have emerged (Luthans & Youssef, 2007; Roberts, 2006; Seligman, 2003; Shults, 2008; Youssef & Luthans, 2007). In my dissertation, I follow the main premises of the positive psychology by focusing on the discovery, development, and nurturing of strengths with which teachers' optimal development can be attained (Seligman, 2003). Although psychological strengths are present within all humans, they need to be uncovered, developed, and nurtured if individuals are to realize their benefits (Ryff & Singer, 2003). In research on positive psychology, there are some examples with special focus on higher education institutes and pedagogy (see Parks, 2011; Roberts, 2006; Shults, 2008;) and, as an example, strength-based faculty development (McGovern, 2011). However, this type of research is scarce and not focused on exploring teachers' own experiences in the change. In this study, I apply these previous premises by focusing more on the opportunities to grow and develop.

In this study, I use the positive approach like an umbrella for theoretical strength-focused constructs. Referring to Mills, Fleck and Kozikowski (2013), recent studies regarding positive psychology approach at work have investigated many constructs e.g. resilience, empowerment, psychological capital, work engagement, supervisor and organizational support, positive teamwork and co-worker relations, and positive leadership. These sorts of positive strengths in work life may cluster together resulting in resource gains and upward spirals, as gain spirals, in individual employees as well as in their work communities (Hakanen, Perhoniemi, & Toppinen-Tanner, 2008). In addition, gain spirals increase motivation and engagement (Hobfoll, 2001). Theoretical constructs used in this dissertation follow positive approach, where the focus is on optimal functioning. The sub-studies investigated teachers' work and professional practices in the changing context from three different angles. The first study focused on building socio-psychological wellbeing in educational environment, especially in teacher-student relationship. The second study focused on exploring teachers' experienced motivation, like sources of interest and enthusiasm, and support they felt they needed for succeeding in the change. The third study focused on collective efficacy and resilience, when developing new teamwork and team learning practices. All the different angles in this study; wellbeing, enthusiasm and interest, collective efficacy and resilience are dynamic constructs, which are socially constructed in specific context and in the interaction of individual and his/her environment. Therefore, they are dynamic in nature and closely related to individual development in certain context.

1.2.1 Socio-psychological wellbeing for learning

In implementing student-centered pedagogical practices, teachers are the key actors for creating the supportive conditions for students' learning, and these kinds of conditions can have an impact on their own development as well. Ryan and Deci (2000) propose in their self-determination theory (SDT) that basic psychological needs for competence, relatedness and autonomy are determinative regarding optimal experience and well-being in daily life. They highlight that social context catalyze both within- and between-person differences in motivation and personal growth, resulting in people being more self-motivated, energized, and integrated in some situations, domains, and cultures than in others. The satisfaction of needs for competence, relatedness and autonomy predict performance and wellbeing in different life settings as well as in schools. The need to relatedness pertains to the feeling that one is close and connected to significant others, the need for competence is fulfilled by the experience that one can effectively bring about desired effects and outcomes, and the need for autonomy involves perceiving that one's activities are congruent with the self (Reis, Sheldon, Gable, Roscoe & Ryan, 2000).

SDT is widely applied in research related to students learning and wellbeing (e.g., Guay, Ratelle, & Chanal, 2008; Sjöblom, Mälkki, Sandström, & Lonka, 2016), to teacher motivation and development (e.g., Klaijisen, Vermeulen, & Martens, 2017, Lam, et al., 2010; in de Wal, Den Brok, Hooijer, Martens, & Van Den Beemt, 2014) and further, related to successful work behavior (e.g., Baard, Deci, & Ryan, 2004, Gagné, & Deci, 2005). Creating socio-psychological wellbeing for members of the university community can be understood as a learning process that enhances relatedness, competence and autonomy (Ryan & Deci, 2000; Sheldon & King, 2001, Seligman & Csikszentmihalyi, 2000; Soini, Pyhältö, & Pietarinen, 2011).

Teachers' pedagogical practices in implementing student-centered and competence-based education create the foundation for successful learning environment, in which socio- psychological wellbeing can enhance every members' optimal functioning. Learning for socio-psychological wellbeing is an active, collaborative and situated process in which the relationships between individuals and their environment are constantly constructed and modified (Pyhältö, Soini, & Pietarinen, 2010; Soini, et al., 2011). It can be seen as ongoing, interactive process of sense making and development in which motives and emotions play an important part (e.g., Pyhältö, et al., 2010; Stubb, Pyhältö, & Lonka, 2011; Wenger, 1998). What teachers can do in practice to support this interactive process, is very essential question to explore and to make transparent in developing pedagogical practices. In this study, I have chosen to concentrate on actions and perceptions of experienced teachers, to reveal the most successful practices.

1.2.2 Teacher enthusiasm and the support needed for them to change

Optimal educational environment supports people's capacity to act in the best possible way. The shift towards CBE entails many changes in teachers' working environment. Therefore, it is not enough to study what teachers can do to support students learning, but also to explore what teachers themselves need in the change and how can they sustain their motivation. A teacher's motivation to work for changes is based on receiving social support from colleagues and supervisors, and having a stimulating climate for innovation, which also creates a social norm that innovative work is appreciated (Messmann & Mulder, 2011). Teachers need to be considered as learners themselves, while their enthusiasm and interest for development can be considered as the key motivational factors for change. Enthusiasm is an affective construct and can best be assigned to the domain of positive emotion and intrinsic motivation (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011). Interest is a specific motivational variable as well as a psychological state that occurs in interactions between persons and their objects of interest. It is characterized by increased attention, concentration and affect (Renningen & Hidi, 2011). Motivational characteristics, such as interest and intrinsic motivation, constitute a group of socio-cognitive constructs that form one of the bases for adaptive and functional behaviors within the context of education (Pintrich, 2003). These constructs typically speak to a sense of joy and excitement, when engaging with an object or activity. This experience, which is often associated with a sense of meaningfulness, is regarded as a motor for engaged behavior (Pintrich, 2003).

Intrinsic motivation emerges from an individual's interactions with a specific context and can thus vary across situations (Ryan & Deci, 2000). Various conceptualizations of interest strongly suggest that interest can be nurtured and supported through interactions with others and/or through the way in which the learning environment is designed (Renningen & Hidi, 2011). Research on enthusiasm and interest affecting a teacher's level of motivation is mostly based on school practices (see Kunter, et al., 2011; Renningen & Hidi, 2011), where teachers' enthusiasm and interest are studied with respect to students' learning. Kunter et al. (2011) argue that almost all the available studies on teacher enthusiasm have addressed the behavioral, instructional aspect of the construct, but that there is a major gap in research on what in fact forms the core component of teacher enthusiasm, namely a teacher's subjective experience. The changes in teachers' work and roles are changing dramatically; that is why the question of sources of enthusiasm and interest, and the support teachers feel they need for change must be addressed and studied in a new light.

1.2.3 Collective efficacy and resilience

Successfully implementing CBE demands transformation in teachers' work from traditional, individualistic working culture to a more collaborative and networking type of culture based on team teaching, collegial collaboration and networking with the world of work (Barnett & Coate, 2005; Benjamin, 2010; Biggs & Tang, 2007; Lakkala, Toom, Ilomäki, & Muukkonen, 2015; Lonka, 2015). In practice this means, for example, that teachers will increasingly work as teams, and traditional and fragmented subject-based teaching is transformed into competence-based and integrated entities. The need to make extensive changes in the way teachers initiate more intensive levels of collaboration has raised the question on how teachers' efficacy and resilience can be developed successfully. Collective efficacy (Bandura, 1997, 7) refers to a teacher team's beliefs concerning managing with the change, while resilience means a capacity to recover when changes occur (Luthans, 2002). In the change process, higher education teachers face several challenges when trying to learn new ways of working and sustaining their motivation (Keesing-Styles, Nash, & Ayres, 2014). They need to be able to craft their new collaborative practices with their colleagues, students and professional networks beyond the school.

However, the focus of teacher collaboration can be diverse and can range from a superficial level to intensive collaboration. Vangrieken, Dochy, Raes and Kyndt (2015) call a continuum ranging from teams as mere aggregates of individuals, to strong levels of team collaboration as 'the degree of team entitativity'. They also discovered a lack of clear and empirical insights into the phenomenon of teacher collaboration itself, especially in higher education (Vangrieken, et al., 2015). Therefore, when trying to deepen understanding of how teachers can find successful ways to work and manage in the change, the perspective must be broadened to a collective level, instead of experiences about individual actions. Collective efficacy and resilience are key concepts analyzing the teacher teams' capacity to succeed in their changing work. They can both be analyzed via factors identified as successful and protective or, on the other hand, as risks and challenges. The focus is on "we" instead of "I" (see Goddard, Hoy, & Hoy, 2004) in order to answer the question of how the teacher teams manage to change their ways of working.

Collective efficacy and resilience are socially constructed in a specific context. Collective self-efficacy "represents a group's shared belief in its joint capabilities to organize and execute the courses of action required to provide given levels of attainment" (Bandura, 1997, 477). Regarding teacher teams, collective efficacy perceptions are future-oriented beliefs about how teachers can succeed as a team. The success of teacher teams lies in teachers' sense of collective efficacy, the belief that they can solve the problems they face and improve their work through unified effort. Collective efficacy has been a neglected construct in research on school development, but recent studies endorse its importance (Goddard, 2001). Teachers' beliefs about their collective efficacy have been positively and significantly related

to advancements in student achievement (Goddard, Hoy, & Hoy, 2000; Moolenaar, Daly, & Sleekers, 2012), teachers' commitment to their students (Lee, Zhang, & Yin, 2011) and trust among colleagues (Goddard, et al., 2000), and they have served as indicators of teachers' professional commitment (Ware & Kitsantas, 2007). A socially supportive teaching environment increases collective efficacy, which in turn has a positive impact on teachers' job satisfaction (Lim & Eo, 2014) and further, a reciprocal relationship between collective efficacy and collective flow has been found (Salanova, Rodriquez-Sanchez, Schaufeli, & Cifre, 2014).

The concept of resilience has been utilized in many professional fields, and it refers to the positive psychological capacity to rebound, to "bounce back" from adversity, uncertainty, conflict, failure or even positive change, progress and increased responsibility (Luthans, 2002). In the educational context, resilience is conceptualized as "the ability of an individual, team or school to adapt to changing demands, to recover, and to remain vigorous after the changes have occurred" (Schelvis, Zwetsloot, Bos, & Wiezer, 2014, 631). Based on their review of teacher resilience, Beltman, Mansfield and Price (2011) present resilience as a complex, idiosyncratic and cyclical construct, involving dynamic processes of interaction over time between a person and environment. The question regarding teacher resilience is not just how to survive, but how to thrive in the profession (Beltman, et al., 2011).

Meister and Ahrens (2011) discovered three main factors that improve teacher resilience: leaders providing autonomy and support for teachers' enthusiasm and growth, the affirmation of having a positive effect on students' lives, and collegial interactions. According to Gu and Day (2007), resilience is a multidimensional, socially constructed concept that is relative, dynamic and developmental in nature, and it provides a promising perspective for understanding the ways in which teachers manage and sustain their motivation and commitment in times of change. Beltman et al. (2011) have highlighted the need for more empirical studies in different contexts, and the role of teachers themselves in developing resilience. How teacher teams experience factors affecting their collective efficacy and resilience, can help us to deepen our understanding about teachers' collaborative work in the change.

1.3 Pedagogical development as a practice-based study context

The pedagogical development forms the context in which my sub-studies were driven. In this section, as a practitioner researcher and pedagogical developer, I describe the perspectives for developing student-centered and competence-based education during the years of this dissertation in order to create a picture of what

kind of changes teachers encountered in their environment. In the trajectory of development, the focus has broadened from just improving the pedagogical micro-level practices of individual teacher more to teacher teams and organizational level. However, in my work as a pedagogical developer, I tried to integrate individual teacher development and organizational learning, as it has proved to be a successful approach in development (Clarke & Hollingsworth, 2002; Edwards, 2005; Fullan, 2005, 2016; Giles & Hargreaves, 2006). In practice, this meant the continuous interplay between key persons in the organization, namely directors, supervisors, teachers and other developers. The core question for reflection was on how we can meet the needs of various kinds of students and the continuously changing world of work, and further, to find the manageable ways to organize learning processes and teachers work? Various perspectives needed to be explored and made transparent, and needs from all the levels taken into account, from the level of student learning and wellbeing, from the level of teacher competences, development and collaboration, and from the organizational level like curriculum and shared pedagogical guidelines.

The special targets for the pedagogical development were defined following the idea of constructive alignment (Biggs 1996, Biggs & Tang, 2007). The first special target, related to this study, was to improve students' guidance as a pedagogical practice, in general, as a core practice in implementing student-centered higher education. The second target was to integrate RDI - activities into learning, and in this way improve alignment between the desirable competences and the learning environments by organizing learning processes in close connection with the world of work. The third target was to restructure the curricula by integrating traditional subjects into bigger competence-based modules, which necessitated teachers' teamwork and students' peer learning. The core component in all these transformations was to strengthen students' motivation and engagement for the practice-based competence development and the teachers' facilitating role.

1.3.1 Developing guidance practices

The universities of applied sciences in Finland are required to support the professional growth and lifelong learning of students (Ministry of Education and Culture, 2014). The concept of guidance has been used as a general term in UASs referring to teachers' and other staff work supporting students' learning and studying, even though the concept is complex and equivocal (Edwards & Usher, 2000; Gladding, 2012; Ravis, 1996). In teachers' work, guidance can be termed guidance of professional growth or as pedagogical guidance (see Annala, 2007; Eriksson, 2005), to make a difference e.g. from counselling (study psychology or study counsellor responsible) or from advising (other staff like study advisor responsible). Further, sometimes the word mentoring is used, when teachers

represent the voice of work life or other stakeholders from the world of work are participating in guidance work (e.g. in project-based learning or work practice). In a way, guidance as a pedagogical practice is a central manifestation of learning centered education, where the aim is to motivate students to construct their own knowledge and to encourage them to be responsible for their own learning. In this sense, guidance means scaffolding the learning path (Salomon & Perkins, 1998; Wertsch, 1991). For students, improvements in guidance means that their individual needs are taken into account, they can feel they are being 'heard' and 'seen', and they can get feedback and support for their learning. This highlights the interactive nature of guidance work and challenge teachers to change their role from subject teacher to be more holistic facilitator of learning.

Additionally, in guidance work teachers need to broaden their perspectives for learning, because students' development process of professional expertise entails integration of theoretical, practical, socio-cultural and self-regulative knowledge (Tynjälä, Välimaa, & Sarja, 2003). Therefore, the guidance practices are not just connected to accomplishing certain subjects, but it is more like a process, which makes students integrate different learning experiences during their studies, encouraging them to develop a personal meaning-making process (Mäntylä, 2007). In addition, when the concept of competence itself is understood in a holistic way, as an integration of knowledge, skills and attitudes (e.g., European Commission, 2016; Eraut, 1994) or, quite similarly, knowing, acting and being (see Barnett, 2009) the aim of learning in a UAS is not just the theoretical knowledge of that discipline (knowledge or knowing), or skills that student are expected to achieve (skills or acting), but also refers to the personal growth of expertise (attitude or being). The importance of attitudes, and 'being' or 'becoming' a professional is highlighted, as the knowledge and skills can expire in the rapid changes in the world, but the 'being' is more related to life-long learning skills, which are highly appreciated in the workplaces. Therefore, in guidance work teachers' role is very holistic, trying to build students' ownership for their learning and allowing them to ponder the questions: Who am I becoming? And How can I get there?

In developing guidance practices, in the relationships with students, also teachers needed to find a new way of 'being', giving up the expert role to become a tutor. In guidance, teachers need to craft their actions according to the needs of students and build the relationships for successful learning. From my perspective, this change was not easy or self-evident for all the teachers, but it raised the question, what is the new way of 'being' with the students and what is the right way to act. Teachers' guidance work is based on holistic perspective for students' development, and this differs remarkably from the traditional and fragmented teaching work when just concentrating on subject teaching. There was a practical need to understand, how teachers can succeed in this kind of work as a facilitator of students' competence development. To approach this challenge, pedagogical wellbeing (Pyhältö, Soini,

& Pietarinen, 2011), as a concept referring socio-psychological wellbeing and fully functioning in the educational environment, was chosen to reveal the most meaningful actions of experienced teachers.

1.3.2 Developing integration of RDI and learning

The next special focus in the pedagogical development during this dissertation, was the creation of authentic learning environments by integrating RDI (research, development, and innovation) activities into learning. In teachers' work, there was a need to organize learning processes in collaboration with the work life representatives, so that students can have learning opportunities in authentic professional settings. In these kinds of learning environments, the integration of theoretical, practical, self-regulative and socio-cultural knowledge are achieved by students' participation in natural problem-solving situations (Koskinen & Äijö, 2013; Tynjälä, 2010). The aim was also to strengthen the constructive alignment, by creating authentic learning environments where competences can be acquired, as limited school environments cannot provide that. For some of the teachers, this kind of 'educational innovation' was not a new idea, but they have already organized e.g. project-based learning with different kinds of applications. However, it was recognized that these practices did not cover all the study programs comprehensively and there was a need to escalate them. Furthermore, it was recognized that even though teachers can build successful conditions for student-centered and competence-based education in their relationships with students, this viewpoint is not sufficient for understanding how teachers can succeed in transforming their practices. It was also important to understand what teachers need in the change and how can they find the motivation for it. In order to create more profound understanding of teachers' experiences about the change, and to succeed in the diffusion of innovation, teachers' motivational factors, like sources of enthusiasm and interest and their experiences about the challenges in diffusion of innovation were studied. I found it very important to concentrate on the most advanced teachers' experiences (teacher-developers), so that we could identify success factors for further development.

1.3.3 Developing teachers' team work and implementation of integrated modules

The third change in teachers' work, related to this dissertation process, was a reconstruction process of the curricula in HAMK. The focus of the pedagogical change was to improve CBE by reconstructing curricula into broader competence modules, in which the previous subjects were integrated, and teachers were organized to work as teams responsible for planning and implementing the

module together. In addition, the development goal was to create flexibility and innovativeness for student-centered tailoring of the learning process by changing the individual and fragmented nature of teachers' work to be more collaborative. In the students' learning level, collaborative learning and authentic real-life projects were emphasized in order to create the alignment between work-related competences and pedagogical practices. Even though the previous phases in the development work were going into this same direction, the organized collaborative working model was new to the teachers. The teachers were in a novel situation, where they needed to give up their individual teaching work in planning and implementing learning processes and start to find ways to succeed as a team. As teamwork was the solution in the organization to improve education, it was important to analyze the teacher teams' capacity to launch and manage the change in terms of collective efficacy and resilience. For this dissertation study, this new practice offered a complementary case to broaden the analyses of teachers' experiences to the group level, which was also in line with the increasing importance of teacher collaboration in implementing CBE.

1.4 Summary of the theoretical and practice-based framework

This study is based on the idea that in the change, teachers need to find new kind of person – environment fit (Eccles 2008; Edwards, et al., 1998; Pyhälto, Pietarinen, & Salmela-Aro, 2011) to sustain their engagement. They need to question and redesign their practices. Teachers' professional development and organizational development are intertwined. In this study, the dynamic interplay between teachers' experiences and their changing working environments forms the frame (Edwards, 2005; Lave & Wenger, 1991; Salomon & Perkins, 1998; Vygotsky, 1978), as illustrated in Figure 1. Teachers' experiences are approached with different theoretical constructs, like socio-psychological wellbeing, enthusiasm and interest, and collective efficacy and resilience to create a triangulation. On the other hand, this study is practice-based oriented when distinct phases in pedagogical development created the special focuses for more detailed studies (Study 1: guidance, Study 2: integration of RDI and learning, authentic learning environments, Study 3: integrated learning modules, students' peer learning and teachers' team work).

Teacher motivation depends on teachers' own interpretations of their work and how they experience and feel about it. This study contributes to the deeper understanding of teachers in the change, and what preconditions there are to sustain their motivation and engagement.

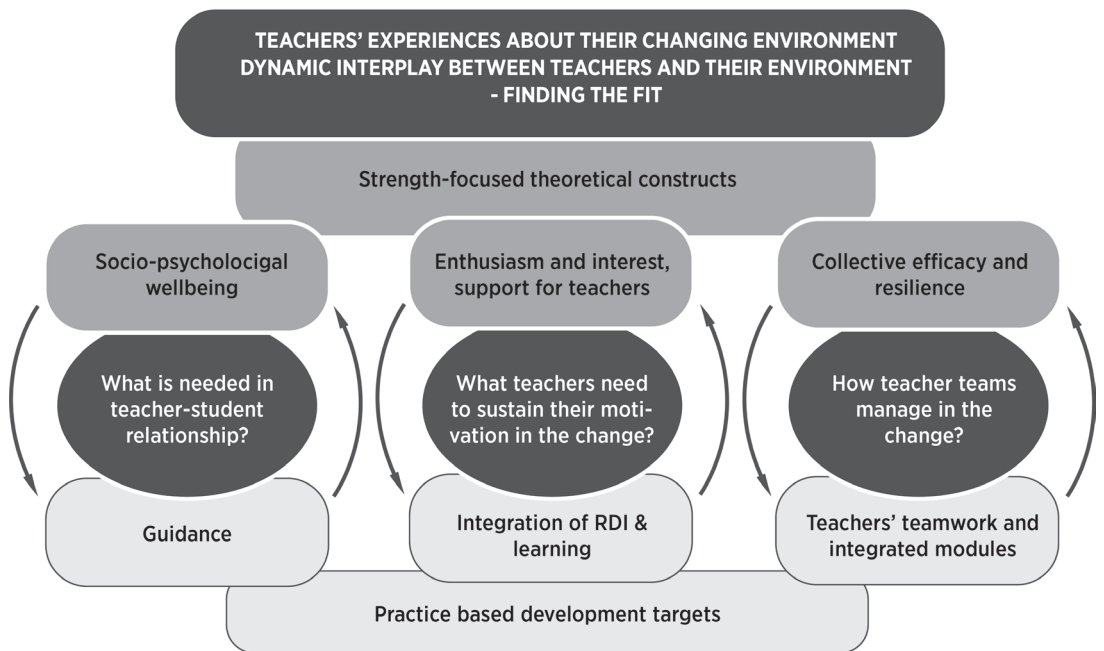


Figure 1. Visualization of the theoretical and practical framework of this study

2 THE AIM OF THE STUDY

The aim of this study was to deepen understanding of how teachers experience their developing work and how successful change can be achieved in the terms of optimal functioning in educational environment. All the studies focused on analyzing teachers' experiences in developing their professional practices in student-centered and competence-based education.

The aim was approached through the following research questions:

1. How was socio-psychological wellbeing for learning constructed in teacher-student relationship? (*Study 1*)
2. What were the sources of enthusiasm and interest as well as the support needed for teachers in the phase of educational innovation? (*Study 2*)
3. How did teachers in teams experience their collective efficacy and resilience when developing collaborative practices? (*Study 3*)

In this dissertation, the pedagogical development process has been the context of all the sub-studies, which examine teachers' experiences utilizing strength-focused theoretical constructs, following the positive approach. This study has also served the development of competence-based higher education and the more specific focuses for the sub-studies has been driven from the field. In Study 1, the focus was on holistic guidance of students' professional growth and on teachers' optimal practices facilitating socio-psychological wellbeing in the educational environment (Research question 1). The aim was to analyze teachers' experiences of guidance practices in terms of socio-psychological wellbeing, in terms of the feelings of relatedness, competence and autonomy. During Study 2, the educational environment was developed to integrate RDI (research, development and innovation) - activities into learning and linking the learning processes to the world of work. This educational innovation raised the questions concerning motivational factors, like sources of enthusiasm and interest for teachers to participate in the change process and how organizational support could be organized. The aim was to analyze teachers' experiences related to change towards the integration of RDI and learning (Research question 2). During Study 3, implementation of traditional courses and subjects were transformed to integrated competence-based learning entities. Teachers were organized to work as teams, and team learning with students

were emphasized. The special focus was to create a collaborative environment to support competence-based learning. The aim was to analyze teachers' experiences on how collective efficacy and resilience could be achieved (Research question 3). All these studies created a unique context for researching higher education institute and its' teachers in their way of continuously developing professional practices in CBE.

3 METHODS

This dissertation is a qualitative case study (Yin, 2009, 2014) formed by three interconnected, but also separate cases from the same context of one university of applied sciences. The special focuses of the sub-studies were driven from the field and they were closely connected to my work as a pedagogical developer. Therefore, this study can be considered as a practice-based research or a practitioner research, which refers to ‘workplace research or development work within a professional field, that is carried out by practitioners, who are personally involved with the professional practices, actions and activities of the field’ (Heikkinen, de Jong, & Vanderlinde, 2016). Practitioner research or practice-based research relies on pragmatism. This highlights the importance of the pragmatic value of doing research, when the choice of methods is based on the idea of ‘what works’ (Creswell & Plano Clark, 2007). Practitioner research ‘may be understood as finding new knowledge about ‘performing, doing’ those practices’ (Heikkinen, et al., 2016). In that sense, all the studies in this dissertation utilize practitioners’ reflections, like teachers’ own reflections when doing and performing their job, even though they were not participating in researching them. Furthermore, I, as a researcher and facilitator of the development, was a member of the same community, so my own contextual knowledge as a practitioner was consciously utilized when conducting data collection and making inferences from the data (Herr & Anderson, 2005, 9-10).

3.1 Research context

The context of this research was continuing pedagogical development work at a multidisciplinary institution of higher education Häme University of Applied Sciences (HAMK UAS). HAMK provides Bachelor- and Master-level education, professional teacher education and continuing education in several professional domains. Besides education, HAMK offers applied research, development and innovation (RDI) services especially for the needs of the regional labor market and society, as well as coordinates and participates in many pedagogical development projects nationally and internationally. It has around 700 staff members and 7000 students, and it operates in seven campuses.

During this study, from 2007 to 2014 the aims of pedagogical development were following HAMK’s educational and pedagogical strategies, which highlighted the importance of guidance of students’ professional growth and further, taking needs and expectations of the world of work into account in education. The strategic principles emphasized the education, teaching and guidance processes that

promote lifelong learning and are structurally flexible. The desired competences of teaching staff, mentioned in the strategy, were the following: teamwork and network competence, international competence; work-based shared planning, implementation, evaluation and development competence-based on integrative pedagogy; competence in digital working and online teaching; and competence in entrepreneurial operating cultures and entrepreneurship teaching. The studies were conducted in close connection with pedagogical development process related to bachelor-level education, with different phases and special focuses. In each phase, teachers' experiences about the new pedagogical practices were studied.

When conducting this study, I have been the designer of the pedagogical development programs, facilitator of the professional development of teachers, and the main researcher and investigator of teachers' experiences, so my own expertise of the field was consciously utilized (see Herr & Anderson, 2005, 9-10). This can be considered as an asset for the study, as it has been easier to understand the context the participants were referring to with their comments. However, this kind of setting has its' limitations, which are discussed later (in 5.2. Methodological reflections).

3.2 Procedures and participants

The aim of this study was to focus on optimal practices and that guided the selection of participating teachers. All the participants can be described teacher-developers, since they were selected based on their experience and interest in developing their pedagogical practices. In the study, I focused on teachers who were willing to improve their practices and who were engaged in it. In each study, the participating teachers represent different professional domains, and all together, they form a group of multi-professional teachers in higher education.

During Study 1, (2007-2008) teacher training program was established to support the development. Altogether 50 teachers participated voluntarily, and they were all personally interviewed. Based on the first phase of content analysis 15 (9 female, 6 male) most experienced and advanced teachers were selected for this study in order to examine what is good and what is already working in students' guidance. All selected teachers had pedagogical teacher education and they worked as teacher tutors or study counsellors, in which role they had a broader responsibility in guidance. Their working experience in the UAS varied from 3-20 years. They represented different domains of education: technology, natural resources, business, natural sciences, social services, health and tourism. Typical for these 15 teachers were interest and motivation expressed in their own learning and developing guidance practices as a whole.

During Study 2, (2010–2011) the coaching program for interested teachers was correspondingly organized. As a part of the program, teachers' experiences were studied using a questionnaire. All together 46 teachers from the following fields of education participated voluntarily in the study: business, health care, social services, technology, construction and natural sciences. To guarantee their anonymity, as the data collection was organized as a part of the coaching program, recognizable background information like gender and age were not asked. Based on their interest in improving the pedagogical practices, they can be considered as teacher-developers. Further, all of them were already applying the integrative pedagogical model, had experience with guiding students' learning in work-related projects and environments, and had experience in collaborating with those involved from work life.

During Study 3, in 2014, the curricula were restructured into broader and integrated competence-based modules, and teachers were organized to work as teams. Three experienced teachers were selected for each team to plan and implement the first modules starting in September 2014. Teacher teams' experiences were also studied as part of the development. At first, 11 voluntary teacher teams were interviewed, but only five were selected for the study. The criteria for selecting the five teacher teams were as follows: the teams worked in the same unit; the modules were equally long, eight weeks, which made the teacher processes comparable and provided a more intensive data collection period to the study. The teachers in these teams already had experience in working collaboratively. The teams represented the following fields in Bachelor-level education: agricultural industries, biotechnology and food engineering, sustainable development, landscape design and plant production (both within the domain of horticulture). Each of the five teams consisted of three persons, so 15 persons (11 females, four males) participated in the study.

3.3 Materials

For Study 1 the data were collected using thematic semi-structured interviews, which combined a predetermined set of open questions related to teachers' guidance work, goals, practices and skills needed in that work (Appendix 1). Teachers were also asked to evaluate their guidance practices as a whole in their working environment. The thematic interviews were informal in nature and allowed the interviewer to explore themes or responses further. The interviews lasted around one hour and were recorded and transcribed.

In Study 2, the data were collected by a semi-structured questionnaire, which was sent by email to the participants as a part of the coaching program. The questionnaire was created with background theories that illuminate the research

questions related to teachers' experiences about the educational innovation. It consisted of open-ended questions (Appendix 2) on the following themes: current circumstances related to the integration of RDI and education, needs for development and support, obstacles that prevent or hinder the integration process and teachers' ideas for solving these problems, as well as questions concerning sources of enthusiasm and interest related to teachers' work.

In Study 3, in order to ensure validity, qualitative data were collected during the four phases and by several means including team interviews and individual follow-up questions. This triangulation supported the legitimacy of the conclusions (Hamilton & Corbett-Whittier, 2013). First, the data collection began with a team interview during the planning stage. Next, the first follow-up questions were sent by email to each team member, when the implementation process of reforming pedagogical practices towards competence-based learning was going on. The second follow-up questions were sent when the implementation had ended and finally, the data collection ended with a second set of team interviews. The team interviews consisted of the following themes: the changes teachers experienced, what they found inspiring and challenging, the reasons for success and failure, and what the new competences needed by a teacher were (see Appendix 3). The questions of the semi-structured interviews were open, to be able to capture the experiences as comprehensively as possible. Team interviews were chosen to increase and deepen the recall of the shared experiences. On the other hand, the open email follow-up questions were used to provide complimentary data. In these individual follow-ups, it was possible to find out about experiences that had not been mentioned in team interviews and to clarify if the team members as individuals agreed on the team opinions. With the individual questions, teachers were asked to describe their team's successes and failures, and the reasons for them (Appendix 4).

3.4 Analyses

In Study 1, interview data were qualitatively analyzed in several phases. At first, all the interviews from 50 teachers participating in the development of guidance practices were content analyzed (Krippendorff, 2004). The aim was to define the most experienced teachers in guidance practices by using case analysis of each participant's descriptions of key events promoting students learning (Patton, 1990, 376- 377). The approach of the study was to concentrate on optimal experiences (Seligman & Csikszentmihalyi, 2000) and best practices. Based on this first phase of content analysis interviews, the 15 most experienced and advanced teachers were selected into this study in order to examine what is good and what is already working in guidance of a student. Their interview data were further analyzed using a cross-case approach (Patton, 1990, 376-377), in which the critical incidents (Tripp, 1993,

1994) from different participants' descriptions were grouped together into themes. The themes were organized adopting a material-based approach with a theory-guided analysis in order to describe teachers' practices in guidance and discuss their implications in creating relationships for wellbeing in terms of relatedness, competence and autonomy (see Ryan & Deci, 2000; Sheldon & King, 2001).

Study 2 represents a single case study (Yin, 2009) in which the development process formed the case. The process of analyzing the case was iterative explanation building, aiming to explain the real-life processes (Yin, 2009). The questionnaire data were analyzed by using qualitative content analysis. It was used as a conceptual device (Coffey & Atkinson, 1996, cited in Schreier, 2012, 39): in finding relations between the data and concepts as well as the existing theories. The units of the analysis were the participants' opinions concerning the development process. The coding categories were partly based on theoretical concepts, like enthusiasm and interest (e.g., Kunter, et al., 2011; Pintrich, 2003; Renningen & Hidi, 2011) and partly based on the data itself, similar to Schreier's (2012) description of the qualitative content analysis. The structure of the dimensions and categories was developed during several iterations. The main dimensions for the final analysis were decided as a means of answering the research questions of the study, and these dimensions formed the analysis framework. The categories for each dimension were constructed based on our analysis of the answers in the questionnaire. However, because the questions were also guided by the previous theories, the categories were both theory- and data-driven. The unit of the analysis was a single item focusing on one idea, which sometimes consisted of one word (e.g. Teamwork) and sometimes more than one word (e.g. There should be more time so that we could manage to prepare and accomplish our work better). The analysis was exclusionary, and the items listed in the answers were coded only for one category. The scientific software program, Atlas.ti 6.2. was used in the analysis.

Study 3 was an explanatory multiple case study consisting of five cases (Yin, 2009) and the aim was to increase understanding about the phenomenon that was investigated through cases (Merriam, 1998). The data from five teacher teams' group interviews and personal follow up questions were analyzed using abductive strategy, which utilizes both deductive and inductive approaches (Atkinson & Delamont, 2005; Coffey & Atkinson, 1996; Creswell & Plano Clark, 2007; Haig, 2005). In the abductive inferences, both theory guided analyses (e.g., Patton, 1990) and data-grounded analyses (e.g., Harry, Sturges, & Klingner, 2005; Mills, Bonner, & Francis, 2006) were utilized to yield an optimum understanding of the phenomenon. The unit of the analysis was an expression focusing on one idea, which sometimes consisted of a couple of words (e.g., Inspiration of students) and sometimes of several sentences (e.g., It is about the openness. I think we said the bad things as well, and if something went wrong with your own doings, we communicated in an honest way, didn't try to feign/fake). The scientific software

program, Atlas.ti 6.3. was utilized in the analysis. First, using the deductive strategy, the interview data were coded into the main categories: changes, protective factors and risk factors. The protective and risk factors categories were driven from the prior knowledge and research on collective efficacy (e.g., Goddard et al., 2004) and resilience (e.g., Beltman et al., 2011). Because the interviews were semi-structured in nature, the same themes came up during the various phases of the interviews, but the categories were exclusive, and each unit was assigned only to a single category. The data from the follow-up questionnaires were also coded into the main categories of protective factors and risk factors. The first author did the first coding, and the coding was discussed repeatedly with the second author. As a result, some changes in coding were made, and exclusive categories were created for the research questions. After this, using an inductive strategy, the first and the second author developed the final subcategories over several iterations utilizing data-driven analysis. The units of analysis were also compared with each other. To support coding reliability, inter-coder reliability check with one colleague from the same context (Whitley & Kite, 2013) was also used.

3.5 Summary of the methods

Qualitative methods were used in this dissertation to capture teachers' own voice and experiences about their changing work, and providing answers for research questions in the best possible manner. An overview of the aims of the studies, participants, methods, instrument and analyses used in each of the studies are presented in Table 1.

Table 1. Overview of the methods

Research question	General aim	Participants	Method	Instrument	Analysis
<p>Study 1 How was socio-psychological wellbeing for learning constructed in teacher-student relationship?</p>	To analyze experiences related to guidance practices in terms of socio-psychological wellbeing	15 teacher tutors from different domains of higher education	Interview	Thematic interview examining teachers' experiences of their guidance practices (Appendix 1)	Qualitative content analysis of critical incidents (Tripp, 1993,1994), cross-case approach (Patton, 1990) combining material based and theory-guided analysis
<p>Study 2 What were the sources of enthusiasm and interest as well as the support needed for teachers in the phase of educational innovation?</p>	To analyze experiences related to change towards integration of RDI and learning	46 teacher developers from different domains of higher education	Questionnaire	A semi-structured questionnaire with open questions about participants' opinions concerning the development process (Appendix 2)	Qualitative content analysis, as a conceptual device (Coffey & Atkinson, 1996): in finding relations between the data and concepts as well as the existing theories Iterative explanation building, aiming to explain the real-life processes
<p>Study 3 How did teachers in teams experience their collective efficacy and resilience when developing collaborative practices?</p>	To analyze experiences related to team work and implementation of integrated competence-based modules	5 teacher teams (15 teachers) from different domains of higher education	Interviews and questionnaire	Thematic group interviews examining teachers' experiences about the change (Appendix 3) Individual follow up questions (Appendix 4)	Qualitative content analysis Abductive strategy (Atkinson & Delamont, 2005; Creswell & Plano Clark, 2007)

4 FINDINGS

The key findings of the three sub-studies are presented below. The results are described in more detail in the journal articles.

4.1 Constructing socio-psychological wellbeing for learning in guidance practices

Study 1 aimed to capture the optimal practices of experienced teachers facilitating socio-psychological wellbeing, in terms of building feelings of relatedness, competence and autonomy in various formal and informal guidance situations with students. Teachers described their experiences and actions, how they work in practice when building successful guidance practices in student-centered education. The focus was to explore how teachers facilitated socio-psychological wellbeing of students, but it has also impact on teachers' own wellbeing.

The experienced teachers' descriptions revealed that they consciously supported students' feelings of relatedness, competence and autonomy in their guidance work. According to the teachers, the feeling of relatedness was enhanced by building caring and supportive atmosphere and by speaking and acting in a friendly way, showing their respect and interest for the students. The teachers described their minor actions and small incidents to have positive impact on students, which illustrated conscious psychological and physical presence and mindfulness, where intention, attention and attitude are interwoven aspects (Shapiro, Carlson, Astin & Freedman, 2006). They mentioned that these kinds of actions built positive emotions, belongingness and connectedness, which in turn, helped students to create ownership and motivation to their own learning. This also corresponds to previous research on the importance of positive emotions in learning (e.g., Baumeister & Leary, 1995; Fredrickson, 2001, Ryan & Deci, 2000; Sheldon & King, 2001) and research on the development of student interest and motivation (e.g., Hidi & Harackiewicz, 2000, Laksov, Nikkola, & Lonka, 2008). The teachers also felt it essential to create relatedness *between* the students and positive feeling within the study group. This actualized in guiding the group processes and in the guidance methods used in learning situations to increase participation and cooperation in the study groups. Furthermore, the descriptions of the teachers illustrated that relatedness seemed to be a resource of wellbeing also for the teachers themselves. The teachers mentioned that relatedness with the students prompted their own positive feelings, when they could feel satisfied, competent and relating to the students, as close connections appeared to amplify positive feedback to the

teacher. Besides this, relatedness was experienced to increase teachers' ability to help the students better, which, in turn, increased their own sense on competence (see Ryan & Deci, 2001).

The feelings of competence and autonomy were supported by encouraging students to recognize their prior knowledge and personal strengths as a starting point and to define their own goals in competence development. Teachers felt important when helping students broaden their sometimes very restricted interpretations of affordances (actions possibilities within an environment or the ways in which the environment allows one to interact with it, see e.g. Gibson & Pick, 2000; Norman, 1988) and to create their autonomous paths for learning. They highlighted the need to use student-centered, self-evaluative, participatory, collaborative and 'playful' methods to help the students realize their strengths and competences already acquired, and what professional interests they might have. In nurturing students' feeling of autonomy, the common practice teachers mentioned was to engage students in planning their own learning. During this planning, students and teachers interpreted the curriculum's predetermined, common goals together, and then students created their own goals. This has also been a successful approach according to previous research, in which the relative autonomy of personal goals has been shown repeatedly to be predictive of wellbeing outcomes (Ryan & Deci, 2000). Accordingly, the teachers pointed out the need to create optimistic ideas of the future, which has been proved to affect wellbeing (Seligman & Csikszentmihalyi, 2000). For the feeling of autonomy, it is very important to create choices (Ryan & Deci, 2000); all the teachers described how they reciprocally created alternative learning trajectories like individual timetables, diverse types of assignments adopted to individual situations and multiple ways to accomplish study tasks. Based on this study, in competence-based education, teachers' attunement to personal situations and needs of students seem to be very important (see also Vermunt & Verloop, 1999). However, the interrelationships between teachers' autonomy support and teachers' attunement and supportiveness, shows that teachers cannot directly give students a sense of autonomy (Reeve & Jang, 2006). Nonetheless, like illustrated in this study, teachers can provide students with high-quality interpersonal relationships – relationships rich in attunement and supportiveness – and out of that relationship context, student can experience and begin to exercise their own sense of autonomy important for student-centered CBE.

The findings indicated that guidance is an embedded practice in these experienced teachers' work as a significant amount of guidance took place in informal, non-planned situations, e.g. in the corridors and cafes, between the formal learning occasions. The success factors in teachers' practices reflected flexibility and conscious relational agency, "a capacity to align one's thoughts and actions with those of others in order to interpret problems of practice and to

respond to those interpretations” (Edwards, 2005, 169). Furthermore, in creating feelings of relatedness, competence and autonomy, a holistic approach to students’ development and to working community seemed to be highly relevant. Students’ life situations were considered holistically, and facilitation of learning focused on the overall learning process, in which the importance of knowing existing curricula and guidelines as whole was needed. Furthermore, this holistic approach required interaction and communication in the working environment with colleagues to create more affordances for flexibility in collaboration. However, teachers mentioned that some of the other teachers had the opposite approach to their work and that caused challenges to achieve socio-psychological wellbeing in learning in the whole community. Therefore, wellbeing should not be understood as an unintended by-product of a learning environment, but as a shared and conscious aim of ongoing pedagogical practices, which can proactively create and sustain conditions to “fully functioning” (Deci & Ryan, 2008). Fully functioning educational organizations need fully functioning students and teachers, who feel satisfied in the relationships in the educational environment. Teachers’ practices in the educational environment base the conditions where relationships are constructed. These practices need to be developed in the whole community in a way that consequently every member of the educational environment can feel related, competent and autonomous.

4.2 Sources of enthusiasm and interest as well as support needed in educational innovation

Study 2 investigated teacher-developers’ experiences during an educational innovation process called integration of RDI and education. The focus was on teachers’ enthusiasm and interest in making changes as well as on their experiences with meeting the challenges and the organizational support they felt they needed during the innovation process. The findings indicated that teachers’ personal experiences, sources of interest and enthusiasm, as well as the challenges they face, and the organizational support needed, are intertwined and a fundamental part of educational change. Teachers’ personal development, social interaction and work conditions form an integrated entity, with all of the parts being interconnected. This highlights the connection between individual motivation and social context (as noted by Ryan & Deci, 2000), in which teachers’ feelings of relatedness, competence and autonomy must be supported to achieve successful educational change.

The main source of interest and enthusiasm for teachers was social interaction and networking with their colleagues, students and representatives of work life, both of which created a feeling of relatedness. For instance, empowering students to become agents in their own learning and collaborative work among teachers can make it possible to create various roles for teachers that provide enthusiastic

settings for teacher learning. However, rigid structures and traditional practices made collaboration difficult to organize, even though the participants felt that collaboration was important. They also reported that a collaborative culture is essential to the integration and diffusion of the educational innovation, as per Fullan (1996) and Smith (2012). In addition, teachers proposed several ways to increase collaboration, such as creating opportunities for sharing knowledge and co-creation, working together, teaching and guiding students together, specializing in different tasks related to integration and letting students take more responsibility for creating direct contacts and projects. According to the teacher-developers, collaboration does not happen by itself, but needs to be organized and supported, and the participation of teachers need to be ensured. Further, this study indicates that a changing and challenging environment offers opportunities for teachers to learn and develop, which can create a meaningful feeling of competence and sustain their level of engagement (see Pintrich, 2003) in educational innovation. However, a mismatch was found between the development needs and the ways in which the work was organized and resourced, and this can diminish the success of the work and threaten the feeling of competence. The lack of resources was the main challenge at present. They felt that a new way of handling resourcing was needed for the successful organization of teachers work. The participating teacher-developers' experiences can be seen to reflect 'teachers in between', where teachers are trying to act in a new way, while at the same time continuing to live with the 'old structure and old sense of timing'. 'Restructuring, reculturing and retiming' (Fullan, 1996, 2005) are required to improve the adaptive actions needed for new ways of operating. All the new responsibilities cannot be added to or embedded within more traditional structures and practices. Some practices and structures will need to be given up.

This study also revealed that the feeling of autonomy was a contradictory issue regarding teacher development. Many of these teacher-developers found it as a source of interest and enthusiasm, which corresponds to the findings of Lam et al. (2010): a sense of autonomy is important for teacher motivation. However, some participants experienced that (other) teachers' autonomous ways of working can be too traditional and not aligned with current integration practices. Thus, the autonomy of a teacher can be challenging with respect to change if teaching is still regarded traditionally as consisting of individual work and planning by each teacher. This can lead to person-dependent ways of working in which only some students will benefit from the new integrative ways of learning. An essential finding of this study is that teachers' autonomy must be considered in a new light, as part of a collaborative and networking environment, as the integration requires collaboration more than ever before.

The results from Study 2 extended the understanding of how successful practices can be created from the perspective of teachers as key actors in the change. There

was a clear need for a strengthened and sustainable collaborative environment to increase communication, which is essential for the diffusion of innovation. Furthermore, as a conclusion, teachers' feelings of relatedness, competence and autonomy need to be supported in creating new practices. In providing successful competence-based and student-centered higher education, teachers' job crafting need to be facilitated, so that they can find the right tasks to be responsible of and given up something which is not so essential to use time in the new model. Further, they need to create a new mindset, one in which teachers' work is not only considered at the individual level but more as part of networks.

4.3 Role of collective efficacy and resilience in developing collaborative practices

Study 3 investigated how teacher teams experienced the changes and how they perceived the factors affecting their collective efficacy and resilience in managing the new collaborative working model. This occurred when they implemented integrated competence-based modules as a team of teachers. This study extended the analysis of teachers in the change to collective level, which is necessary in investigating strengthened teacher collaboration. Teachers were asked how they succeeded as a team, not as individuals.

The teachers experienced significant changes in their work practices during the pedagogical innovation process. The transformation from working individually to engaging in teamwork changed the way teachers interacted with students, how they collaborated with their colleagues, and how they regulated themselves and their work. The main change the teachers recognized at the student level were in the collaborative learning environment, such as teachers acting more like facilitators of learning and students more like collaborators. The experience of a supportive atmosphere and strengthened teacher team entitativity (cf. Vangrieken et al., 2015) also created space for diversification in pedagogical practices. The main change experienced, relating to teacher competence, was self-regulation, which highlights the need for continuous adaptation and the significance of teacher resilience. All these changes created a novel picture regarding the phenomenon of teacher collaboration in higher education, and emphasized the importance of collaboration as a way to create a successful environment for promoting students learning and teacher development.

The findings related to team members' beliefs about collective efficacy and resilience at the student level indicated that *students' motivation and engagement* is the main protective factor. Observing students' inspiration created a vicarious experience (see Goddard, et al., 2000) for teachers to reflect on their collective efficacy. The successful change was created with the students, not just for them.

Teachers also succeeded in overcoming the challenges when creating new practices, which enhanced their collective efficacy and persistence, as in the study undertaken by Beltman et al. (2011). The reasons for success were related to issues they themselves had created and resolved, which corresponds to the findings by Goddard et al. (2000): when success is attributed to internal and controllable causes, efficacy beliefs are enhanced. Similar phenomenon was also found at the team level, as the main protective factors were *trust in overcoming challenges* and *collective agility and flexibility*, which indicates each team's own capacity to craft its collective work according to the emerging needs. This trust even increased during the process, which resonates the previous study related to a reciprocal relationship of collective efficacy and social flow (Salanova et al., 2014).

The risks for each teacher team's collective efficacy and resilience with students' learning were mainly related to the challenges in creating new practices, which not only defied resilience but also created new challenges for the teams to overcome and develop together. When teams successfully meet such challenges, they can increase their resilience and sense of collective efficacy. This kind of mastery experience (see Goddard et al. 2004) can be a powerful source of efficacy information, and through that, build the team's resilience. The main risk, *obscurity of new practices and unfit administrative tools*, was an external factor, which the teachers felt they could not have an impact on themselves, and this feeling even increased during the process. At the first implementation of the new model, it is understandable that organizational structures had not been comprehensively developed, and traditional ways of working still live on in people's minds, thereby making the new practices seem even more obscure in their nature. Nevertheless, when moving towards a collaborative working model and student-centered organization of learning, it is essential to build administrative and organizational guidelines that enable and support the innovation process (Smith, 2012; Kunnari & Ilomäki, 2016). The best solution for increasing collective efficacy and a sense of ownership would be to allow the teams themselves to create the guidelines for their work. In this way, by taking the responsibility upon themselves for finding solutions on how to succeed, they can learn to be more resilient.

The main risk factor found in teachers' work, *time management and workload*, is supported by the findings presented in previous studies (e.g., Beltman et al., 2011; Kunnari & Ilomäki, 2016). Teachers need to be allotted enough collective time to be able to clarify obscure practices. At the team level, the risks of *insufficient interaction and communication*, and *vague roles and guidelines* can also be connected to a lack of shared time to solve the problems. If there is insufficient time for social engagement within a team, such as communication and the sharing of positive experiences to support persistence and problem solving, then the efficacy beliefs of a team can be diminished (see Goddard et al., 2000). These findings highlight the demand for sufficient team entitativity and deep-level collaboration when

working with students (see Vangrieken et al., 2015). Likewise, if collaboration itself strengthens resilience, then time management issues need to be taken seriously.

This study draws a picture of successful teacher teams dealing with change and socially constructing their collective efficacy and resilience. The findings correspond to the previous findings related to increasing teacher collaboration having positive outcomes for teachers' efficacy and resilience (e.g., Bandura, 1997, 2000; Gu & Day, 2007; Lim & Eo, 2014). Regarding the teacher team, collective efficacy and resilience are intertwined into teachers' own perceptions about the success of the team's joint effort, leading to greater persistence and resilience.

5 DISCUSSION

5.1 Summary of the findings

The aim of this study was to explore how teachers experience their developing work and how successful change can be achieved in terms of optimal functioning in educational environment. All the studies focused on analyzing experienced teachers' observations in developing their work. The following picture (Figure 2.) demonstrates the key findings from each study, what factors teachers experienced to support a successful interplay in changing and crafting their student-centered and competence-based professional practices. These factors demonstrate, from three different angles, what kinds of things are the most essential in embracing the change in teachers' professional practices; in teacher-student relationship in guidance work (*Study 1*), in reframing teachers work to be closely connected to the world of work (*Study 2*) and when moving towards more intensive collaboration with colleagues (*Study 3*). In Figure 2, the hindering factors for teachers' embracement are summarized from different studies.

In all the studies the dynamic interplay was recognized, in which teacher development was interacting with teachers' working environment. The most important findings were as follows:

1. Wellbeing and learning were intertwined in educational environment. Teachers and their pedagogical practices had a critical role in building relationships that maintain and support students' socio-psychological wellbeing in terms of feeling related, competent and autonomous. Teachers experienced that practices such as building caring and respecting connections, creating positive interpretations and affordances together, and adopting practices according to the perceived needs of the students had an impact on relationships that fostered students' sense of relatedness, competence and autonomy. These relationships appeared to play a key role in creating successful social conditions for learning and wellbeing. Moreover, creating these kinds of relationships with students appears to have an impact on teachers' own wellbeing as well. This can be seen as an interpersonal flourishing (Ryff & Singer, 2000), which is a core feature of successful educational environment. Teachers identified one challenge related to this, which was some of their colleagues not so holistic approach to guidance as a fundamental part of the job. (*Study 1*)

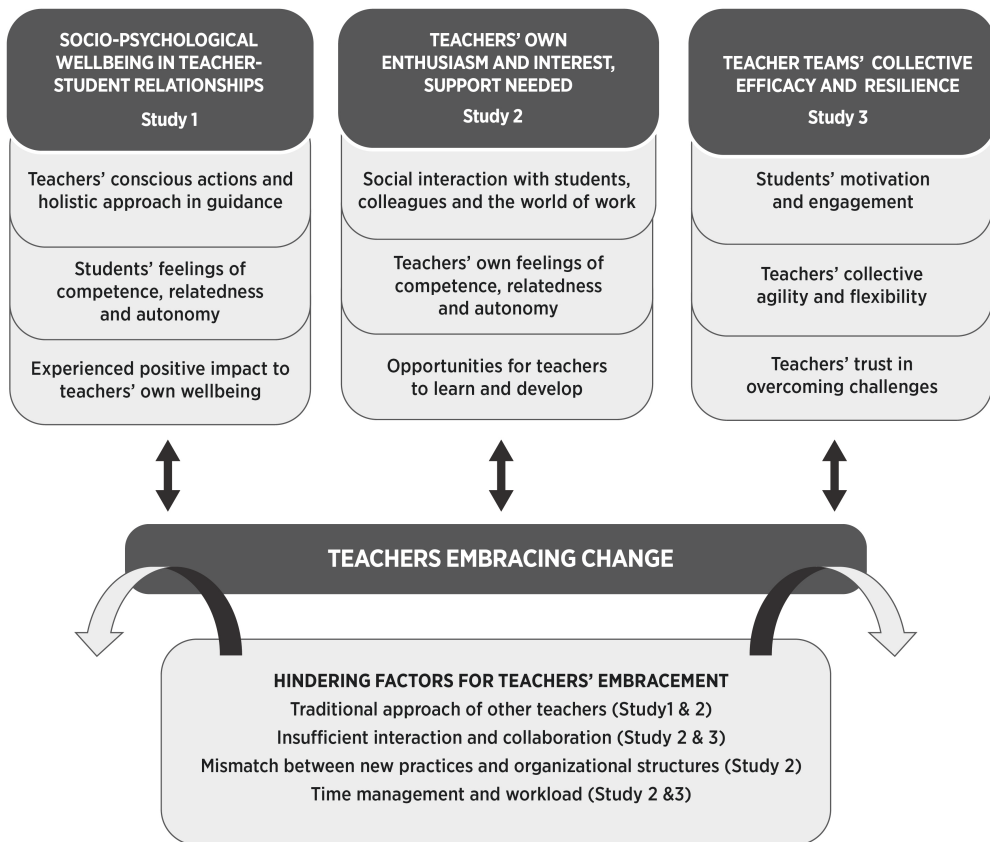


Figure 2. Supportive and hindering factors for teachers' embracement

2. In the process of educational innovation, teachers' motivational experiences, like sources of enthusiasm and interest, as well as the challenges and the organizational support, required the need to be considered as an intertwining and fundamental part of successful educational change. The main source of interest and enthusiasm for teachers was social interaction and networking with their colleagues, students and representatives of work life, but rigid structures and traditional practices made collaboration difficult to organize. Collaboration does not happen by itself, but it needs to be organized, and the participation of teachers need to be ensured in order to succeed in educational innovation. Furthermore, a changing and challenging environment offers opportunities for teachers to learn and develop, but simultaneously needs the facilitation of teachers' feelings of competence, relatedness and autonomy. Teachers' professional development can create a meaningful feeling of competence and sustain their level of engagement (see Pintrich, 2003) in educational innovation. (Study 2)

3. Working in teacher teams with integrated competence-based modules changed the way teachers experienced how they interacted with students, how they collaborated with their colleagues and how they regulated themselves and their work. Increased teacher collaboration had positive outcomes for teachers' collective efficacy and resilience, which were intertwined in the teachers own perceptions about the success of the team's joint effort, leading to greater persistence and resilience. At the students' learning level *Students' motivation and engagement* was the main protective factor for teacher efficacy and resilience, and at the team level the main protective factors were *trust in overcoming challenges* and *collective agility and flexibility*, which indicates each team's own capacity to craft its collective work according to the emerging needs. The risks for collective efficacy and resilience with students' learning were mainly related to the challenges in creating new practices, which not only diminished resilience but also created new challenges for the teams to overcome and to develop together. The main risk at the team level was time management and workload, which highlights the crucial importance of sufficient team entitativity (see Vangrieken et al., 2015) and deep level collaboration within a team to sustain collective efficacy and resilience. (*Study 3*)

5.2 Methodological reflections

In a qualitative practitioner study, questions related to the soundness of the research cannot be reflected based on the traditional ways of handling validity; different standards need to be utilized. Since the special focuses of the sub-studies were driven from the field of continuous pedagogical development, and further, I was the designer and facilitator of the professional development of teachers, as well as the main researcher and investigator of teachers' experiences, this study can be considered as *practitioner research* (Heikkinen, et al., 2016), which relies on pragmatism. To evaluate qualitative practitioner research, Kvale (1995, 1996) has addressed the idea of *validation*, as an endless process of meaning-making and negotiation and criticized the use of a traditional concept like validity. Further, *five principles for validating practitioner research* has been developed to evaluate the "goodness" of this kind of research (Heikkinen, Huttunen, & Syrjälä, 2007; Heikkinen, Huttunen, Syrjälä, & Pesonen, 2012; Heikkinen, et al., 2016). In the following, I utilize these principles of *historical continuity*, *reflexivity*, *dialectics*, *workability* and *evocativeness*, and further, the more traditional principles namely *credibility*, *transferability*, *dependability* and *confirmability*, presented by Guba

and Lincoln (1994), in terms of evaluating the qualitative approach used in this study.

The principle of *historical continuity* refers to the importance of paying sufficient attention to the historical background of the topic of the study, and it means that practitioner researcher recognizes the historical evolution of the professional practice (Heikkinen, et al., 2016). Guba and Lincoln (1994) present very similar idea for evaluating qualitative research, called *dependability* (instead of using reliability), which emphasizes the need for the researcher to account for the ever-changing context within which research occurs. The researcher is responsible for describing the changes that occurred in the setting and how these changes affected the way the research approached the study. In this dissertation, the narrative of the pedagogical development is provided in the introduction as a practical framework for this study. By describing the context of pedagogical development during the years of this study, I tried to connect teachers' experiences, as illustrations of their development, as a dynamic interplay between a teacher and his/her changing working context (Edwards, 2005; Lave & Wenger, 1991; Salomon & Perkins, 1998; Vygotsky, 1978). However, as a limitation for this study, it has not been possible to capture and account all the changes in the context, as the participating teachers represent different professional fields and different working communities. Furthermore, all the participating teachers have their personal development stages as a teacher, which have affected their experiences. To increase dependability, the number of participating teachers should have been reduced to capture the more detailed changes experienced by individual teachers.

In addition, in evaluating *dependability* or *historical continuity*, there is a broader higher education development context at a national, European and global level. This context has inevitably had an influence on the background, as a wider paradigm shift from a traditional teacher and content-centered education, towards a student-centered and competence-based education. However, in this study, I have not been able to reflect on this wider level of change so deeply. The principle of *historical continuity* is more applied in the level of participating teachers and from my own perspective as a developer and a researcher. As a practitioner researcher, my own aspirations, like the positive approach to teacher development has been described in the introduction and used systematically throughout the studies. Furthermore, at the teacher level, during these years of this study, the student-centered and competence-based education in UAS has changed the focuses of pedagogical development, which has caused demands for teachers to develop. In this study, the aim has been to describe the practices and conditions, which enhance the teachers' own personal professional development and fully functioning. Therefore, just as Heikkinen et al. (2016) highlight knowledge that enables good practices, my aim was not just to study how better education and pedagogical practices for students can be achieved, but also to determine

what is good for teachers themselves. This study has made optimal practices and teachers' experiences in the change transparent, which can support sustainable future developments as well.

As a practitioner researcher, there is always a challenge to differentiate yourself from the study context and maintain objectivity while living in the context. *The principle of reflexivity* requires a self-critical approach; the practitioner researcher should be aware of how knowledge about practice is generated, and furthermore, how relations of power operate in this process (Heikkinen, et al., 2016). The aim was to create in-depth understanding of the phenomenon of teachers' experiences in crafting their work practices with their students and their colleagues. Thus, practitioners' perspectives, namely mine and participating teachers', can be seen to complement each other. Teachers derived their experiences from their daily work with their students and colleagues. I was more like looking at the development process from a more holistic perspective, and from the organizational standpoint utilizing my own theoretical and experiential knowledge about the phenomena. Thus, the knowledge about practice was created combining teachers own reflections when doing and performing their job to my own perspectives as a researcher and facilitator of the development. Both data-driven and theory-driven analysis were combined to guarantee in-depth understanding about the phenomena, so *reflexivity* between previous theoretical perspectives were combined with practical experiences from the field.

In addition, even though I, as a researcher, represented a special group of teachers (teacher educators), and my work focused on pedagogical development, both participating teacher and I shared the same interest to reflect and improve our practices, and to learn and develop them further. In terms of power relations, I was not in the position to have the power to directly influence the teachers' job, but of course some of the participants could have considered me as a representative of management. My role was to carry their voices to the wider audience, which could have had an impact on their answers. In addition, in *Study 1*, participating teachers experienced the individual interview to be a 'learning moment' for them when reflecting their own practices. The interview questions guided the discussions, so the reflections were not completely open. However, the interviews were flexible, and teachers were allowed to follow and reflect on their own experiences in their own order. Regarding the group interviews (*Study 3*), it can be evaluated that there was no significant power asymmetry between the team members, as they all represented teachers and did not have the position of supervising other teachers. However, there was a need as an interviewer, to try to guarantee that each member could have an equal amount of time to share their thoughts, and not let stronger or more fluent speakers to dominate the discussion. Furthermore, related to answering the questionnaire (*Study 2*), there was a lot of general discussion in the coaching program on how important it is to create a common understanding about best

practices and challenges to be able to develop them in the right direction. That is why the creation of answers can be considered as meaningful for the teachers, and not so much influenced by power relations, because of the anonymity of the replies as well.

The principle of dialectics can be considered to be closely related to more traditional validity criteria of qualitative research, called *credibility* (Guba & Lincoln, 1994) or *dialogic validity* and *democratic validity* (Anderson & Herr, 1999). They all report that the social reality is constructed in the dialectic process, and that is why a practitioner researcher needs to give space to the authentic voice of the participants (de Jong, de Beus, Richardson, & Ruijters, 2013). According to Brinkmann (2007), researchers' objectivity in qualitative study is gained by the ability of the object of the study to show its nature and steer interpretations. In this study, teachers' experiences have been investigated by using thematic and semi-structured interviews and open-ended questions to create open space for authentic reflections. Both individual (*Study1*) and group (*Study3*) interviews were informal in nature and, for instance, the pre-determined fixed order to talk about the themes were not strictly followed to let teachers talk freely. The open-ended questions in the questionnaires (*Study 2 and Study3*) were also used for the same reason. Authentic responses were also utilized when reporting about the results. However, as a limitation for this study, the principle of dialectics or credibility could have been stronger, if there had been the possibility for teachers to participate in evaluating the final findings from their perspective, as the participants are the only ones who can legitimately judge the credibility of the results (Guba & Lincoln, 1994). However, in this study reciprocity and mutuality between researcher and participants can be considered to have been rather strong, because I as the interviewer and the interviewees were all teachers in the same institution (Study 1 and 3). Anderson and Herr (1999) emphasize that research on practice and for practice cannot be performed from an 'outsider position', but that the researcher must be involved in the practices themselves to understand them from an 'insider position'. In that sense, I had my benefits to understand their comments, as a representative of same educational community and this way, make the interferences as a dialectic process with their authentic comments.

Furthermore, to increase dialogic validity, the co-authors participated in analyzing the data. In *Study 1*, the co-author participated in evaluating the interferences from the interview analysis. In *Study 2 and 3*, the coding categories were discussed together with co-authors and redefined in several phases. Further, the intercoder reliability check (Whitley & Kite, 2013) was also used to support dialectics between other researchers (see also 3.4.). These processes provided an effective way to increase *confirmability* (Anderson & Herr, 1999), as a degree to which the results could be confirmed or corroborated by others.

The principle of workability refers to the fruitfulness and usefulness of the research, paying attention to whether it has given rise to changes in social actions (Heikkinen, et al., 2012, Heikkinen, et al., 2016). In this sense, it is very close to *pragmatic validity*, the term used in reference to qualitative research designed to assess the significance and applicability of the study for both academic and wider purposes (Kvale, 1995). From this perspective, the results of this study give many practical implications on what the most meaningful ways are to improve teachers' work in a continuously changing environment (discussed more in 5.3. and 5.4.), which can be considered as a strength of this study. However, Heikkinen et al. (2012) emphasize that this principle of workability is not just pragmatic but involves ethical issues and a critical view of change. They also highlight that 'practical consequence of an action research project might be empowerment or emancipation of the practitioners'. As a main result of this study, the teachers' own ability of crafting their jobs successfully were found to be the key element in the change, which can also have positive consequences for teacher motivation. However, if we compare participating teachers experiences in *Study 2* and *Study 3*, we can see that in *Study 2* they were replying more like 'objects' making observations about the changes and in *Study 3* more like active agents, themselves being responsible for making changes. This can be due to the questions proposed to them, but also as a different development phase in teachers' work.

In evaluating the practitioner research, *the principle of evocativeness* means that research stimulates and provokes a person to think about things in a new and different way (Heikkinen, et al. 2012, Heikkinen et al. 2016). It is very close to *catalytic validity* (Anderson & Herr, 1999) referring to impact on producing new insights and transformations. Both these aspects highlight that it is not just cognitive-rational thinking but also touches the readers on an emotional level. It is difficult to evaluate how evocative these results can be for different readers outside the context, but it can be assumed that the positive approach can stimulate positive thinking and empowerment in the change. Furthermore, in terms of research process and its participants, it was recognizable how teachers were motivated to reflect on their practices and through that to create new perspectives on their own job. It also created many new insights for me as a developer and teacher educator, how important it is to build the teachers' own motivation and ownership to craft their jobs in collaboration with other teachers, and how challenges in the job can be effective learning moments for teachers to develop.

Finally, in evaluating the qualitative study we can ask whether the results of this study are useful to other contexts. As previously noted in this section, the detailed description of the practice-based context was provided to help the reader to make the judgment about the transferability (see Guba & Lincoln, 1994). Universities of applied sciences are special environments for teachers' work as they operate in close interaction with the world of work, and in that sense they can utilize the

findings more easily in developing education. However, as the similar changes from traditional teacher-centered learning towards student-centered and competence-based learning are happening at all the levels of education, the findings of this study can reveal some important aspects for all teachers, pedagogical developers and educational directors. Even globally, as these kinds of changes towards student-centered and competence-based education are recognized important for effective learning everywhere. If the teachers' own experiences are utilized in these transformations, the change is likely to be more sustainable.

5.3 Theoretical reflections and implications

Studies related to higher education teachers' professional development and learning in the change has been limited. Hence, this study increased understanding of how teachers experience new practices, which challenge them to find the optimal ways of working and help them fit better with their changing environment. The changes can be considered as an effective learning environment for teachers' workplace learning, when new practices are learned while developing them (see Engeström, 2001; Imants & van Veen, 2010; Tynjälä, 2008). Further, utilizing a positive approach and focusing on teachers, who were already interested in developing their work, this study revealed gain spirals (Hakanen, et al., 2008; Hobfoll, 2001) in the teachers' changing work and illustrated how teachers can succeed in creating new professional practices. These gain spirals can be found at two levels, at the student learning level and related to the collegial collaboration.

Firstly, at the students' learning level, holistic guidance practices (*Study 1*) with the focus on socio-psychological wellbeing, in terms of creating conditions for students to feel competent, related and autonomous, can enhance the teachers' own wellbeing and possibilities for further development in their work. *Study 2* revealed teachers experiencing reciprocal interaction between students' and teachers' enthusiasm and interest related to new practices in integrating RDI and learning. When the teachers recognized the students' enthusiasm and interest, it made them feel more engaged in their work, which in turn made the educational innovation for the teachers easier to apply. Empowering the students to have ownership in their own learning made it possible for the teachers to recreate their role and learn a new way of 'being' as a teacher. Further, in *Study 3*, the students' inspiration for new pedagogical practices motivated the teachers to be more resilient in their work and encouraged them to improve their professional practices. Therefore, the results of this study emphasize the students' central role in teacher learning. In previous studies, students' meaning in promoting teacher development has been noted (Soini, et al., 2011; Spilt, Koomen, & Thijs, 2011; Van Eekelen, Vermunt & Boshuizen, 2006), but this study embraced the students' role in

supporting teacher development and in creating motivation for teachers to further improve their professional practices. Secondly, at the collegial level (*Study 2 and 3*), increased teacher collaboration can be seen to create gain spirals for teacher development as well. The teachers' experiences were in line with the findings of previous studies (e.g. Imants & van Veen, 2010; Lam, et al., 2010; Lieberman & Pointer Mace, 2008; Messmann & Mulder, 2011; Smith, 2012; Voogt, et al., 2011) highlighting that good collaboration and social interaction with colleagues enhanced dissemination of educational innovation, teacher development and diversification of pedagogical practices.

This dissertation also demonstrated that teachers need to be able to adapt continuously and craft their jobs (see Wrzesniewski & Dutton, 2001) to succeed in the changing context of higher education, especially in the universities of applied sciences. Teachers can be recognized to modify aspects of their jobs to improve the person-environment fit between the characteristics of the job and their own needs, abilities, and preferences (Berg, et al., 2013; Tims & Bakker, 2010). The following three specified types of job crafting (Wrzesniewski & Dutton, 2001) can be noticed with the teachers participating in this study: crafting the tasks by taking more or different tasks, crafting their working relationships and cognitive crafting by changing the ways they think about their job.

Firstly, the teachers crafted their jobs by focusing on different tasks and recognized that there is a need to give up some old traditional ones. In the context of educational innovation in integrating RDI and learning, teachers experienced the need to focus more on collaborative tasks instead of individual (*Study 2*). This was made transparent in *Study 3* as well, in applying teachers' teamwork with integrated modules. For example, the teachers changed the assessment practices to be more collaborative, including students' peer assessment and collegial collaboration. Further, in this study, it was evident that the teachers' new tasks need to be more adaptive and flexible. In order to provide successful learning environment for socio-psychological wellbeing, teachers attuned their guidance practices when they recognized certain needs of students (*Study 1*). In addition, in *Study 3*, the teachers expressed that in order to have collective efficacy and resilience in their new working model, the collective agility of a teacher team is important. Teachers need to be sensitive to the needs of their students but also to the needs of the members in their teacher team, when they decide what tasks are the most important to focus on when supporting competence-based learning.

Secondly, the teachers crafted their job by changing the working relationships, how they interacted with their students, colleagues and work life representatives. *Study 1* highlighted that creating relatedness and positive emotions with the students made it easier to understand their needs better and to be able to attune pedagogical practices accordingly. This kind of relationship with students can be considered as very important aspect in implementing successful student-centered

and competence-based education. In *Studies 2 and 3*, teachers experienced that the relationship with students need to be very collaborative, and in this sense teacher-student relationship is more like partnership. Students need to be given responsibility and ownership for their own learning and collaborative knowledge construction. In practice, this means that students are involved in planning, organizing and assessing their own learning processes, and participating in developing pedagogical practices together with teachers. Thus, the relationship between teachers and students can be quite different, when teachers do not provide readymade learning assignments and processes for students. Teachers can learn and develop their professional practices with the help of their students, if they have managed to create true partnership with them. The relatedness and connectedness with the students' can form a solid ground and environment for teacher workplace learning. The other aspect in changing relationships for job crafting, is connected to collaboration with other teachers. In *Study 2*, in order to succeed in educational innovation teachers expressed the need to have more intensive interaction and collaboration with their colleagues. *Study 3* was even more revealing, in which the teachers experienced the teamwork transforming the interaction between them to be more intensive, and this caused positive outcomes for their collective professional development. Changed relationships between the teachers in teams, generated trust in overcoming challenges and increased teacher teams' collective efficacy and resilience, as noted also in previous studies (Bandura, 1997, 2000; Gu & Day, 2007; Lim & Eo, 2014, Salanova et al. 2014). Furthermore, based on the findings of *Study 2*, the teachers experienced their working relationships with the world of work to bring new aspects and inspiration for developing education to meet the needs of rapidly changing world. Crafting relationships with students, teacher colleagues and work-life partners, emphasizes the importance of teachers' relational agency, "a capacity to align one's thoughts and actions with those of others in order to interpret problems of practice and to respond to those interpretations" (Edwards, 2005, 169).

The third kind of job crafting means that teachers engage in cognitive crafting and change the ways in which they think about their job (see Wrzesniewski & Dutton, 2001). In all these studies, the participating teacher-developers experienced the need to have a new mindset as a teacher when implementing successful student-centered and competence-based education. This positive and open mindset illustrates growth mindset instead of a fixed one (see Dweck, 2012). The growth mindset of teachers consisted of a holistic approach to students learning, attunement to the needs of students, alignment of pedagogical practices according to targeted competences, flexibility to organize learning processes utilizing resources available and relying on collaboration with students and colleagues. In *Study 1* and *Study 2*, teachers also noted that some of the other teachers had a different kind of mindset, which can cause accumulation of guidance work for

those who are operating with a holistic approach. These findings also resonate with the findings of Mäki (2012) about two different cultures in teachers work in UAS. In that sense, there might be a need for cognitive crafting of all the teachers in the educational environment, for example, by changing the way teachers think about their students, not just being the objects of teachers' activities but more like partners in creating successful environment for competence development. The other need in teachers' cognitive crafting is to change the individual working orientation to a more collaborative and networking one.

Furthermore, as demonstrated in *Study 3*, increased teacher collaboration can create an effective space for transformation of teacher thinking. Collaborative activities build new kinds of relationships, in which teachers can cognitively craft their inner beliefs related to new practices and build a congruence and fit between their person and the changing environment in implementing competence-based education. The new working model in implementing integrated competence-based modules together with a team of teachers, made transparent how important teachers' adaptation and continuous self-regulation is (*Study 3*). This highlights new thinking how optimal practices can be achieved, not just planning them before implementing, but more like living in the co-creative process with your colleagues, students and work life partners, and regulating your actions according to the emerging needs. On the other hand, teachers might require new kinds of experiences about student-centered, collaborative and competence-based practices, to be able to transform their way of thinking about their job (see also Imants & van Veen, 2010). Without new experiences, teacher thinking could be difficult to transform. Fredrickson and Losada (2005) emphasize that positivity and a positive affect broadens explanatory behavior and builds more accurate cognitive maps which are good and bad in the environment. As illustrated in *Study 1*, teachers in their guidance work helped students to broaden their interpretations of affordances by focusing on students' feelings of competence, relatedness and autonomy (Ryan & Deci, 2000). Teachers need a similar kind of support for their own cognitive job crafting to be able to broaden their perspectives and create a positive and open-minded approach to the change itself.

Some aspects raised by the findings of this study have not been so apparent in previous research on teachers' professional development. The analysis related to teacher teams' collective efficacy and resilience (*Study 3*) indicated that advanced teachers in teams experienced the difficulties in their work more as *challenging demands*, and not experiencing them as *hindering demands* (Bakker & Demerouti, 2007; Van den Broeck, De Cuyper, De Witte, & Vansteenkiste, 2010). Similar findings were also found in *Study 2*, where a changing and challenging environment was recognized to offer opportunities for a teacher to develop and this way create a meaningful feeling of competence and sustain the level of teachers' engagement (see Pintrich, 2003). *Challenging demands* allowed teachers to become creative

together and find innovative solutions, which in turn strengthened their feeling of collective efficacy and made them more resilient when confronting changes.

Based on experienced teachers' reflections in all the studies, it can be seen that changes and challenges can inspire teachers to learn and develop, and further, when overcoming challenges, the motivation and engagement can be stronger. Therefore, the dynamic and demand-driven competence –based education (see Koenen et al., 2015) can provide positive learning moments for teachers, when they feel they can themselves solve the problems. Challenges that the teachers experienced as *hindering demands* in terms of negative outcomes, were mainly related to an organizational frame of teachers' work, limited resources and time management. *Study 2* indicated the mismatch between development needs and the way teachers work was resourced. On the other hand, resource deficit in *Study 1* was based on the other teachers' different approach to guidance work, causing extra work for holistically oriented teachers. In *Study 3*, the teacher teams experienced time management and heavy workload to diminish their collective efficacy, especially because of limited time for collaborative teamwork. All these experiences emphasize the need for a new kind of resourcing, which need to be based on a new type of 'restructuring, reculturing and retiming' of teachers work (see Fullan, 1996, 2005). In the changes, some old practices of teachers need to be given up and new activities created. In addition, perhaps not all the teachers need to have similar roles and resources, as there are a variety of diverse kinds of responsibilities in implementing competence-based education in networking professional environment. Furthermore, other hindering demands were found in *Study 2*, where rigid structures made educational innovation hard to apply and in *Study 3*, *the obscurity of new practices and unfit administrative tools* diminished teacher teams' feeling of collective efficacy in the change. The teachers felt that these demands they could not influence themselves. In some of the cases, this can be the actual truth, but in the other cases, the solution might be in teachers' own hands, even though they have not recognized that. However, in optimal educational environment, organizational guidelines and tools support the development of new practices (Smith, 2012), but sometimes the changes happen firstly in teachers' work, and organizational guidelines and structures develop later. Teachers embracing the change see transformations as a possibility to find new ways of thriving in their work.

5.4 Educational implications

Practice-based or practitioners' research value lies in the new insights it can provide. The educational implications highlighted by this study, can be discussed in the students' learning level in competence-based education, in terms of teacher learning in the workplace and in teacher education, and further, how teachers' work is lead towards collaborative knowledge construction learning culture (Hakkarainen, et al., 2004; Lonka, 2015).

From the students' learning perspective, the findings indicated that teachers' regulative actions and increased collaboration created better conditions for flexible student-centered and competence-based education. Teachers need to be able to listen to and observe the students' needs carefully and to be able to act accordingly in an agile way, as an individual and as a team. Therefore, in building students' empowerment and ownership for their own learning, teachers are required to have strong skills in collaboration, communication, problem solving, critical thinking and creativity, which are emphasized relevant in the changing world (Ananiadou & Claro, 2009; European Commission, 2016; Leopold et al., 2016; Trilling & Fadel, 2009; Voogt, et al., 2013). Regarding teacher education, this raises the question of what kind of learning activities and environments are necessary to support the relevant competence development of forthcoming teachers. Based on the findings of this study, it can be suggested that real-life schooling environments where teacher-students would participate together with other teachers in redesigning the curriculum and its pedagogical practices would create an optimal environment for teacher learning (see Ilomäki et al., 2017; Lakkala et al., 2015; Voogt et al., 2013). In this kind of environment, they could learn to work with complex and interconnected aspects in teachers' work. They could also understand that the pedagogical practices are context dependent and students can be good collaborators in designing what kind of actions are needed from a teacher to facilitate students' learning.

Regarding teachers' professional learning and development in the work, the findings of this study suggest, that teachers can be encouraged to improve their regulative actions by assuring that organizational guidelines and curricula are flexible enough. Curricula need to identify the targeted competences, but in the implementation of learning processes there needs to be space for creativity and innovativeness. Not everything can be planned beforehand, but teachers can be expected to learn and develop their practices while building new ones (Engeström, 2001). The successful approach could be that teachers are considered as learners whose needs are equally important as students' needs. For example, as teachers identified time-management as a challenge, this problem is crucial to be solved together, not just adding new responsibilities to the old ones, but also helping teachers to make choices on what practices need reformulation, new prioritizing or what practices need to be given up. Providing teachers with personal as well as

external flexible and adaptable resources to successfully improvise in the face of uncertainty, may serve to foster teachers' and teacher team's resilience in changing higher education (Mills et al., 2013; Sutcliffe & Vogus, 2003). Personal resources, like hope and optimism (Youssef & Luthans, 2007) and positivity (Fredrickson & Losada, 2005) can serve better in teachers' continuous development than problem-focused and negative approach to change. Teachers might benefit from the awareness of their own possibilities in creating this kind of positive approach. However, at the organizational level, it needs to be recognized that the ownership of teacher learning is strongly in the hands of teachers' themselves (see Smith, 2012; Van Eekelen et al., 2006). The motivation and engagement for developing own practices are based on the idea that teachers themselves are the ones who can best craft their practices in collaboration with others (see Messmann & Mulder, 2011). In practice, this could also mean that teachers can use their own personal strengths in their own way to support their students learning but also to support the teamwork of teachers. If they feel that their own personal input is meaningful, they can be more open for changes.

Based on the findings of this study, one important source for teacher learning is collegial collaboration and collaborative culture, which can be achieved through raising 'organizational mindfulness' (Weick & Sutcliffe, 2006) as a shared awareness of personal and organizational goals and as an ability to recognize and interpret different signals together in time of change. What does this mean from the leadership point of view? At first, it means the leaders need to guarantee that each teacher can concentrate on working in a certain community of teachers and students, instead of fragmenting their work in too many different contexts. That possibility to concentrate is so crucial in teachers' work, as it is important to recognize and be aware of the needs and aspirations of others in collaborative work. In addition, a collaborative working culture demands different kinds of focuses from organizational standpoint, like emphasizing the new autonomy of a teacher as socially constructed in collaboration with other teachers. A teacher is the main actor participating in building new practices, not as an individual but as a part of a community, taking students' needs and colleagues' needs into account. Leaders can support teacher teams' own responsibility and ownership in designing their own work in implementing student-centered and competence-based education. In educational leadership, the essential focus is to assure that each member in a team is being heard and seen, and the personal strengths and interests are taken into account in creating collaborative actions. At the same time leaders need to support the various ways of how to facilitate teacher learning, as all the teachers – like learners – have different kinds of starting points and could have various kinds of learning paths (see Clarke & Hollingworth, 2002; Lieberman & Pointer Mace,

2008; Vermunt et al., 2008). By appreciating the uniqueness of each teacher, the leaders can create the best kind of environment for mindful listening and combining the personal professional goals with organizational ones.

5.5 Future research

This study has led light on the meaningful aspects in successful change in higher education, but only from an experienced teachers' perspectives. That is why many questions related to teacher development are not covered by this study. In the future, it is important to study teachers who seem to have difficulties to find the fit between their professional competences and the changing higher education. This study revealed the tension between holistically oriented teachers with a growth-mindset (Dweck, 2012) and teachers, who seem to confront the changes with a more fixed mindset. In the future, it would be interesting to analyze how the teachers who are not so open and ready for changes explain their behavior or how they experience the change. Furthermore, in terms of achieving successful transformation in higher education, there is a need to explore what kind of support they feel they need for their professional development or are there significant differences compared to the perceptions of experienced teachers. It would be important to investigate how they can be motivated or 'invited' to craft their jobs in collaboration with students and colleagues. In addition, further studies could make transparent the different responsibilities of teachers in universities of applied sciences. There might be a need to clarify what teacher competences are required in networking higher education, and further, how these requirements can be responded to in a collaborative working culture. How can different kinds of teachers find their place, if different kinds of teacher roles are appreciated?

The change is always very complex and dynamic in nature, and that is why it is challenging to capture all the impacting elements. The qualitative approach used in this study, made it possible to describe teachers' observations, but for deeper understanding the processes in promoting successful change, it would be beneficial to combine other perspectives to the analysis. For example, it would be interesting to study students' perspectives in relation to actual practices of their teachers. What are the key elements and competences in teachers' work that students find the most important? With that knowledge, it would be easier to invest teachers' time to the most meaningful actions and help teachers manage their time better. The other important aspect is to investigate students' experiences as partners in designing the educational practices. In addition, a very interesting perspective to explore is how educational leadership can support the development of optimal learning environment. Even though, there are already some studies indicating the important aspects in leaders' work, but not so many studies related to how teacher

teams are lead or how the leadership is shared in teacher teams. How can leaders support the cultivation of collaborative knowledge creation culture and what kind of job-crafting leaders might need to succeed in that?

Furthermore, in modern higher education based on the collaborative knowledge construction learning culture, students and teachers are just part of the wider learning ecosystem, which co-develops continually. By using different qualitative methods, like narrative inquiry (e.g. Webster & Mertova, 2007) or social network analysis (Carolan, 2013; Moolenaar, Daly, & Slegers, 2010; Scott, 2017) this co-developing process could reveal other significant factors for successful change.

REFERENCES

- Aggarwal, R. (2011). Developing a Global Mindset: Integrating Demographics, Sustainability, Technology, and Globalization. *Journal of Teaching in International Business*, 22, 51–69.
- Ananiadou, K., & M. Claro (2009). 21st Century Skills and Competences for New Millennium Learners in OECD Countries. *OECD Education Working Papers*, No. 41, OECD Publishing.
- Anderson, G. L., & Herr, K. (1999). The new paradigm wars: is there room for rigorous practitioner knowledge in schools and universities? *Educational Researcher*, 28, 12–21.
- Annala, J. (2007). Merkitysneuvotteluja hopsista ja sen ohjauksesta. Toimintatutkimus hopsin ja sen ohjauksen kehittämisestä korkea-asteen koulutuksessa. [Negotiating meanings of PSP and guidance therein. A study applying action research to personal study planning and guidance therein in higher education.] Dissertation (Doctoral). University of Tampere, Faculty of Education.
- Atkinson, P., & Delamont, S. (2005). Qualitative research traditions. *The SAGE Handbook of Sociology*, 40.
- Auvinen, P. (2004). Ammatillisen käytännön toistajasta monipuoliseksi aluekehittäjäksi? Ammattikorkeakoulu-uudistus ja opettajan työn muutos vuosina 1992-2010. [From repeating professional practice to versatile regional development? Polytechnic reform and polytechnic teachers' changing tasks 1992–2010]. Dissertation (Doctoral). University of Joensuu, Publications in Education No. 100.
- Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic Need Satisfaction: A Motivational Basis of Performance and Well-Being in Two Work Settings. *Journal of Applied Social Psychology*, 34: 2045– 2068.
- Bakkenes, I., Vermunt, J. D., & Wubbels, T. (2010). Teacher learning in the context of educational innovation: Learning activities and learning outcomes of experienced teachers. *Learning and instruction*, 20(6), 533-548.
- Bakker, A.B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22, 309–328.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY, United states: W.H: Freeman and Company.
- Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current directions in psychological science*, 9(3), 75-78.
- Barnett, R. (2009). Knowing and becoming in the higher education curriculum. *Studies in Higher Education* 34(4), 429–440.
- Barnett, R., & Coate, K. (2005). *Engaging the curriculum in higher education*. Berkshire: McGraw-Hill Education.

- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological bulletin*, 117(3), 497.
- Beltman, S., Mansfield, C., & Price, A. (2011). Thriving not just surviving: A review of research on teacher resilience. *Educational Research Review*, 6(3), 185-207.
- Benjamin, J. (2010). The Scholarship of Teaching in Teams: What does it look like in practice? *Higher education research and development*, 19(2), 191-204.
- Berg, J. M., Dutton, J. E., & Wrzesniewski, A. (2013). Job crafting and meaningful work. In B. J. Dik., Z.S. Byrne, & M.F. Steger (Eds.), *Purpose and meaning in the workplace* (pp. 81-104). American Psychological Association.
- Bernardo, T. M. (2007). Harnessing collective knowledge to create global public goods for education and health. *Journal of Veterinary Medical Education*, 34(3), 330-334.
- Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education* 32 (3), 347– 364.
- Biggs, J. B., & Tang, C. (2007). *Teaching for quality learning at university*. Open University Press/McGraw-Hill Education.
- Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, 33(8), 3-15.
- Brinkmann, S. (2007). The good qualitative researcher. *Qualitative Research in Psychology*, 4(1-2), 127-144.
- Carolan, B. V. (2013). *Social network analysis and education: Theory, methods & applications*. Sage Publications.
- Clarke, D., & Hollingsworth, H. (2002). Elaborating a model of teacher professional growth. *Teaching and Teacher Education*, 18, 947-967.
- Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data. Complementary research strategies*. Thousand Oaks, CA: Sage.
- Creswell, J., & Plano Clark, V. L. (2007). *Designing and conducting mixed method research*. California: Sage Publications.
- Darling-Hammond, L., & Bransford, J. (Eds.). (2007). *Preparing teachers for a changing world: What teachers should learn and be able to do*. John Wiley & Sons.
- Davies, A., Fidler, D., & Gorbis, M. (2011). Future work skills 2020. *Institute for the Future for University of Phoenix Research Institute*, 540.
- De Jong, F., de Beus, M., Richardson, R., & Ruijters, M. (2013). Ecologically and Transdisciplinarily Inspired Research: Starting Points for Practitioner Research and Sustainable Change. *Journal of Organisational Transformation & Social Change*, 10(2), 163-177.
- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian psychology/Psychologie canadienne*, 49(3), 182.
- Dweck, C. S. (2012). Mindsets and human nature: Promoting change in the Middle East, the schoolyard, the racial divide, and willpower. *American Psychologist*, 67(8), 614.

- Eccles, J. S. (2008). Agency and structure in human development. *Research in Human Development*, 5(4), 231–243.
- Edwards, A. (2005). Relational agency: Learning to be a resourceful practitioner. *International Journal of Educational Research*, 43(3), 168–182.
- Edwards, J. R., Caplan, R. D., & Harrison, R. V. (1998). Person-environment fit theory: Conceptual foundations, empirical evidence, and directions for future research. In C. L. Cooper (Ed.), *Theories of organizational stress* (pp. 28–67). Oxford: Oxford University Press.
- Edwards, R., & Usher, R. (2002). *Globalisation & Pedagogy: Space, Place and Identity*. Routledge.
- Engeström, Y. (2001). Expansive Learning at Work: toward an activity theoretical reconceptualization. *Journal of Education and Work*, 14 (1), 133-156.
- Eraut, M. (1994) *Developing Professional Knowledge and Competence*. London: Falmer.
- Eriksson, I. (2005). Building a model for ‘pedagogical guidance’ in higher education. *Didacta Varia* 10 (2), 37–48.
- European Commission. (2007). *Improving the quality of teacher education*. Communication from the commission to the council and the European parliament. Brussels. Retrieved 12th February, 2016 from http://ec.europa.eu/education/com392_en.pdf.
- European Commission. Directorate-General for Education, European Parliament, European Council, European Economic, Social Committee, & Committee of the Regions. (2011). *Supporting Growth and Jobs: An Agenda for the Modernisation of Europe’s Higher Education Systems*. Office for Official Publications of the European Communities.
- European Commission. EACEA/Eurydice. (2014). *Modernisation of Higher Education in Europe: Access, Retention and Employability*. Eurydice Report. Luxembourg: Publications Office of the European Union. Retrieved 29th January 2018, from http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/165EN.pdf
- European Commission. Directorate-General for Education and Culture. (2016). *Developing future skills in higher education*. ET2020 – Peer Learning Activity (PLA). Brussels, 25-26. Retrieved 29th January, 2018 from http://ec.europa.eu/education/policy/strategic-framework/expert-groups/modernisationhigher-education_fi
- European Union. (2010). 2010 joint progress report of the Council and the Commission on the implementation of the ‘Education and Training 2010 work programme’. *Official Journal of the European Union*, C 117.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology. The broaden-and-build-theory of positive emotions. *American Psychologist*, 56(3), 218–226.
- Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *American psychologist*, 60(7), 678.
- Fullan, M. (1996). Professional culture and educational change. *School Psychology Review*, 25(4), 496.
- Fullan, M. (2005). The meaning of educational change: A quarter of a century of learning. In *The roots of educational change*, (pp. 202-216). Springer Netherlands.

- Fullan, M. (2016). The elusive nature of whole system improvement in education. *Journal of Educational Change*, 17(4), 539-544.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26(4), 331-362.
- Gibson, E. J., & Pick, A. D. (2000). *An Ecological Approach to Perceptual Learning and Development*. Oxford University Press, USA.
- Giles, C., & Hargreaves, A. (2006). The Sustainability of Innovative Schools as Learning Organizations and Professional Learning Communities during Standardized Reform. *Educational Administration Quarterly*, 42(1), 124-156.
- Gladding, S. T. (2012). *Counseling: A comprehensive profession*. Pearson Higher Ed.
- Goddard, R. D. (2001). Collective Efficacy: A Neglected Construct in the Study of Schools and Student Achievement. *Journal of Educational Psychology*, 93(3), 467.
- Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective Teacher Efficacy: Its Meaning, Measure, and Impact on Student Achievement. *American Educational Research Journal*, 37(2), 479-507.
- Goddard, R.D., Hoy, W.K., & Hoy, A.W. (2004). Collective Efficacy Beliefs: Theoretical Developments, Empirical Evidence, and Future Directions. *Educational Researcher*, 33 (3), 3-13.
- Goodyear, P. & Zenios, M. (2007). Discussion, collaboration and epistemic fluency. *British Journal of Educational Studies*, 55(4), 351-368.
- Gu, Q., & Day, C. (2007). Teachers' resilience: A necessary condition for effectiveness. *Teaching and Teacher Education*, 23(8), 1302-1316.
- Guay, F., Ratelle, C. F., & Chanal, J. (2008). Optimal learning in optimal contexts: The role of self-determination in education. *Canadian Psychology/Psychologie canadienne*, 49(3), 233.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage
- Haig, B. D. (2005). An abductive theory of scientific method. *Psychological methods*, 10(4), 371.
- Hakanen, J., Perhoniemi, R., & Toppinen-Tanner, S. (2008). Positive gain spirals at work: From job resources to work engagement, personal initiative and work-unit innovativeness. *Journal of Vocational Behavior*, 73, 78- 91.
- Hakkarainen, K., Palonen, T., Paavola, S., & Lehtinen, E. (2004). *Communities of networked expertise. Professional and educational perspectives*. Oxford: Elsevier.
- Hamilton, L., & Corbett-Whittier, C. (2013). *Using Case Study in Education Research*. UK: Sage.
- Harry, B., Sturges, K. M., & Klingner, J. K. (2005). Mapping the process: An exemplar of process and challenge in grounded theory analysis. *Educational Researcher*, 34(2), 3-13.

- Heikkinen, H., Huttunen, R., & Syrjälä, L. (2007). Action research as narrative: five principles for validation. *Educational Action Research*, 15(1), 5–19.
- Heikkinen, H., Huttunen, R., Syrjälä, L., & Pesonen, J. (2012). Action research and narrative inquiry: five principles for validation revisited. *Educational Action Research*, 20(1), 5–22.
- Heikkinen, H. L., de Jong, F. P., & Vanderlinde, R. (2016). What is (good) practitioner research? *Vocations and Learning*, 9(1), 1-19.
- Hénard, F., & Roseveare, D. (2012). Fostering quality teaching in higher education: Policies and practices. *An IMHE Guide for Higher Education Institutions*, 7-11. Retrieved 15th January 2017, from <http://www.oecd.org/education/imhe/QT%20policies%20and%20practices.pdf>
- Herr, K., & Anderson, G.L. (2005). *The action research dissertation. A guide for students and faculty*. Thousand Oaks: Sage.
- Hidi, S., & Harackiewicz, J. M. (2000). Motivating the academically unmotivated: A critical issue for the 21st century. *Review of educational research*, 70(2), 151-179.
- Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: advancing conservation of resources theory. *Applied Psychology: An International Review*, 50, 337– 421.
- Ilomäki, L., Lakkala, M., Muukkonen, H., Toom, A. (2017). Teacher learning within a multinational project in an upper secondary school. *Education Research International*, 2017.
- Imants, J. & Van Veen, K. (2010). Teacher Learning as Workplace Learning. In E. Peterson, E. Baker & B. McGaw (Eds.), *International Encyclopedia of Education*. 3rd Edition. Elsevier, 569-574.
- In de Wal, J. J., Den Brok, P. J., Hooijer, J. G., Martens, R. L., & Van Den Beemt, A. (2014). Teachers' engagement in professional learning: Exploring motivational profiles. *Learning and individual differences*, 36, 27-36.
- Keesing-Styles, L., Nash, S., & Ayres, R. (2014). Managing curriculum change and 'ontological uncertainty' in tertiary education. *Higher Education Research and Development*, 33(3), 496-509.
- Kennedy, M. (2016). How Does Professional Development Improve Teaching? *Review of Educational Research*, 86(4), 945–980.
- Klaeijnsen, A., Vermeulen, M., & Martens, R. (2017). Teachers' Innovative Behaviour: The Importance of Basic Psychological Need Satisfaction, Intrinsic Motivation, and Occupational Self-Efficacy. *Scandinavian Journal of Educational Research*, 1-14.
- Koenen, A. K., Dochy, F., & Berghmans, I. (2015). A phenomenographic analysis of the implementation of competence-based education in higher education. *Teaching and Teacher Education*, 50, 1-12.
- Koskinen, L., & Äijö, M. (2013). Development of an integrative practice placement model for students in health care. *Nurse Education in Practice*, 13, 442–448.

- Kotila H., & Mäki K. (Eds.). (2015). 21 tapaa tehostaa korkeakouluopintoja. [21 ways to enhance university studies.] Haaga-Helia publications. Haaga-Helia University of Applied Sciences.]
- Krippendorff, K. (2004). *Content analysis: An introduction to its methodology*. Sage Publications.
- Kullaslahti, J. (2011). Ammattikorkeakoulun verkko-opettajan kompetenssi ja kehittyminen. [Polytechnic's online teachers' competence and development.] Dissertation (Doctoral). Acta Electronica Universitatis Tampereensis : 1074.
- Kullaslahti, J., & Yli-Kauppara, A. (Eds.). (2014). Osaamisperustaisuudesta tekoihin. Osaamisperustaisuus korkeakouluissa (ESR) -hankkeen loppujulkaisu. [From competence based approach to actions. Final publication of Developing a Competency-Based Curriculum for Finnish Higher Education –project (ESR)]. Turun yliopiston Braheakeskuksen julkaisuja 3. Retrieved 15th January 2018 from http://ospe.utu.fi/materiaalit/Osaamisperustaisuudesta_tekoihin.pdf
- Kunnari I. & Niinistö-Sivuranta S. (Eds.). (2013). Tekoja, tunnetta ja toimintaa urapolulle. [Actions, emotions and operations to career path]. HAMKin julkaisuja 10/2013, Hämeen ammattikorkeakoulu.
- Kunnari, I. & Ilomäki, L. (2016). Reframing teachers' work for educational innovation. *Innovation of Education and Teaching International*, 53, (2), 167-178.
- Kunter, M., Frenzel, A., Nagy, G., Baumert, J., & Pekrun, R. (2011). Teacher enthusiasm: Dimensionality and context specificity. *Contemporary Educational Psychology*, 36, 289–301.
- Kvale, S. (1995). The Social Construction of Validity, *Qualitative Inquiry*, 1(1)19 - 40
- Kvale, S. (1996). *Interviews. An introduction to qualitative research interviewing*. London: Sage Publications.
- Labbas, R., & El Shaban, A. (2013). Teacher Development in the Digital Age. *Teaching English with Technology*, 13(3), 53-64.
- Lakkala, M., Toom, A., Ilomäki, L., & Muukkonen, H. (2015). Re-designing university courses to support collaborative knowledge creation practices. *Australasian Journal of Educational Technology*, 31(5).
- Laksov, K. B., Nikkola, M., & Lonka, K. (2008). Does teacher thinking match teaching practice? A study of basic science teachers. *Medical education*, 42(2), 143-151.
- Lam, S., Cheng, R., & Choy, H. C. (2010). School support and teacher motivation to implement projectbased learning. *Learning & Instruction*, 20, 487–497.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: University Press.
- Lee, J. C. K., Zhang, Z., & Yin, H. (2011). A multilevel analysis of the impact of a professional learning community, faculty trust in colleagues and collective efficacy on teacher commitment to students. *Teaching and Teacher Education*, 27(5), 820-830.

- Leopold, T. A., Ratcheva, V., & Sahiri, S. (2016, January). The future of jobs—Employment, skills and workforce strategy for the fourth industrial revolution, global challenge insight report. *In World Economic Forum*, Geneva.
- LePine, J. A., Podsakoff, N. P., & LePine, M. A. (2005). A meta-analytic test of the challenge stressor–hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal*, 48(5), 764–775.
- Lieberman, A., & Pointer Mace, D. H. (2008). Teacher learning: the key to educational reform. *Journal of Teacher Education*, 59, 226–234.
- Lim, S., & Eo, S. (2014). The mediating roles of collective teacher efficacy in the relations of teachers' perceptions of school organizational climate to their burnout. *Teaching and Teacher Education*, 44, 138–147.
- Lindblom-Ylänne, S., Trigwell, K., Nevgi, A., & Ashwin, P. (2006). How approaches to teaching are affected by discipline and teaching context. *Studies in Higher Education*, 31, 285–298.
- Lonka, K., Joram, E., & Bryson, M. (1996). Conceptions of learning and knowledge— Does training make a difference? *Contemporary Educational Psychology*, 21(3), 240–260.
- Lonka, K. (2015). Working document I. In European Parliament (Eds.) *Innovative Schools: Teaching & Learning in the Digital Era – Workshop Documentation* (pp. 8–37) Brussels: European Parliament.
- Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, 23, 95–706.
- Luthans, F., & Youssef, C. M. (2007). Emerging positive organizational behavior. *Journal of Management*, 33, 321–349.
- McGovern, T. V. (2011). Virtues and character strengths for sustainable faculty development. *Journal of Positive Psychology*, 6(6), 446–450.
- Meister, D. G., & Ahrens, P. (2011). Resisting plateauing: Four veteran teachers' stories. *Teaching & Teacher Education*, 27(4), 770–778.
- Merriam, S. (1998). *Qualitative Research and Case Study Applications in Education*. San Francisco, CA: Jossey-Bass.
- Messmann, G., & Mulder, R. H. (2011). Innovative work behaviour in vocational colleges: Understanding how and why innovations are developed. *Vocations and Learning*, 4(1), 63–84.
- Mills, J., Bonner, A., & Francis, K. (2006). The development of constructivist grounded theory. *International Journal of Qualitative Methods*, 5(1), 25–35.
- Mills, M.J., Fleck, C.R., & Kozikowski, A. (2013). Positive psychology at work: A conceptual review, state-of-practice assessment, and a look ahead. *The Journal of Positive Psychology*, 8(2), 153–164.
- Ministry of Education and Culture, Finland (n.d.). Higher education institutions, science agencies, research institutes and other public research organisations. Retrieved 12th January, 2018 from <http://minedu.fi/en/heis-and-science-agencies>

- Ministry of Education and Culture, Finland. (2014). Universities of Applied Sciences Act 932/2014. Translation from Finnish. Retrieved 12th January, 2018 from <http://www.finlex.fi/en/laki/kaannokset/2014/en20140932.pdf>
- Moolenaar, N. M., Daly, A. J., & Slegers, P. J. (2010). Occupying the principal position: Examining relationships between transformational leadership, social network position, and schools' innovative climate. *Educational administration quarterly*, 46(5), 623-670.
- Moolenaar, N. M., Slegers, P. J., & Daly, A. J. (2012). Teaming up: Linking collaboration networks, collective efficacy, and student achievement. *Teaching and Teacher Education*, 28(2), 251-262.
- Mäki, K. (2012). Opetustyön ammattilaiset ja mosaiikin mestarit: Työkulttuurit ammattikorkeakouluopettajan toiminnan kontekstina. [Teaching professionals and masters of mosaic – work cultures as the context of action of the teachers in universities of applied sciences.] Dissertation (Doctoral), Jyväskylä Studies in Business and Economics 109, University of Jyväskylä.
- Mälkki, K., & Lindblom-Ylänne, S. (2012). From reflection to action? Barriers and bridges between higher education teachers' thoughts and actions. *Studies in Higher Education*, 37(1), 33-50.
- Mällinen, S. (2007). Conceptual change process of polytechnic teachers in transition from classroom to web-based courses. Dissertation (Doctoral), Acta Universitatis Tampensis. Tampere.
- Mäntylä, R. (2007). Ammatillinen kasvu ammattikorkeakoulussa. [Professional growth in the universities of applied sciences.] In Saari, Seppo & Varis, Tapio (Eds.): *Ammatillinen kasvu. Professional growth*. Professori Pekka Ruohotien juhlaKirja. Tampereen yliopisto. Ammattikasvatuksen tutkimus- ja koulutuskeskus. OKKA-Opetus-, kasvatust- ja koulutusalojen säätiö. Keuruu, 92-101.
- Norman, D. A. (1988). *The Design of Everyday Things*. New York: Doubleday.
- Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of educational research*, 81(3), 376-407.
- Paavola, S., Lakkala, M., Muukkonen, H., Kosonen, K., & Karlgren, K. (2011). The roles and uses of design principles for developing the dialogical approach on learning. *Research in Learning Technology*, 19(3), 233-246.
- Parks, A. C. (2011). The state of positive psychology in higher education: Introduction to the special issue. *Journal of Positive Psychology*, 6(6), 429-431.
- Patton, M. Q. (1990). *Qualitative research and evaluation methods* (2nd ed.). Newbury Park, CA: Sage Publications.
- Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology*, 95, 667-686.
- Pirinen, R. (2008). Integrative action process in perspective of the three metaphors of learning. *International Journal of Education and Information Technologies*, 2(4), 226-237.

- Postareff, L. (2007). Teaching in higher education: From content-focused to learning-focused approaches to teaching. Doctoral dissertation, Department of Education, University of Helsinki.
- Postareff, L., Lindblom-Ylänne, S., & Nevgi, A. (2007). The effect of pedagogical training on teaching in higher education. *Teaching and teacher education*, 23(5), 557-571.
- Postareff, L., Katajavuori, N., Lindblom-Ylänne, S., & Trigwell, K. (2008). Consonance and dissonance in descriptions of teaching of university teachers. *Studies in Higher Education* 33, (1), 49–61.
- Pyhältö, K., Soini, T., & Pietarinen, J. (2010). Pupils' pedagogical well-being in comprehensive school—significant positive and negative school experiences of Finnish ninth graders. *European Journal of Psychology of Education*, 25(2), 207-221.
- Pyhältö, K., Pietarinen, J., & Salmela-Aro, K. (2011). Teacher—working-environment fit as a framework for burnout experienced by Finnish teachers. *Teaching and Teacher Education*, 27(7), 1101–1110.
- Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and social psychology bulletin*, 26(4), 419-435.
- Reeve, J., & Jang, H. (2006). What teachers say and do to support students' autonomy during a learning activity. *Journal of educational psychology*, 98(1), 209.
- Renningen, K. A., & Hidi, S. (2011). Revisiting the conceptualisation, measurement, and generation of interest. *Educational Psychologist*, 46, 164–184.
- Rivis, V. (1996). Setting the standards: Implications for higher education of the introduction of occupational standards for advice, guidance and counselling. *British Journal of Guidance and Counselling*, 24(1), 53-66.
- Roberts, L. M. (2006). Shifting the lens on organizational life: The added value of positive scholarship. *Academy of Management Review*, 31, 292-305.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist*, 55, 68–78.
- Ryff, C. D., & Singer, B. (2003). Flourishing under fire: Resilience as a prototype of challenged thriving. In C. L. M. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (pp. 15-36). Washington, DC: American Psychological Association.
- Ryff, C.D., & Singer, B. (2000). Interpersonal flourishing; A Positive Health Agenda for the New Millenium. *Personality and Social Psychology Review*, 4(1), 30-44.
- Salanova, M., Rodríguez-Sánchez, A. M., Schaufeli, W. B., & Cifre, E. (2014). Flowing together: A longitudinal study of collective efficacy and collective flow among workgroups. *The Journal of psychology*, 148(4), 435-455.
- Salomon, G., & Perkins, D. N. (1998). Individual and social aspects of learning. *Review of Research in Education*, 23(1), 1–24.
- Schreier, M. (2012). *Qualitative content analysis in practice*. London: Sage.

- Schelvis, R. M., Zwetsloot, G. I., Bos, E. H., & Wiezer, N. M. (2014). Exploring teacher and school resilience as a new perspective to solve persistent problems in the educational sector. *Teachers & Teaching*, 20(5), 622-637.
- Scott, J. (2017). *Social network analysis*. Sage.
- Seligman, M. E. P. (2003). Forward: The past and future of positive psychology. In C. L. M. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (pp. xi-xx). Washington, DC: American Psychological Association.
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive Psychology. An introduction. *American Psychologist*, 55(1), 5-14.
- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). *Mechanisms of mindfulness*. *Journal of clinical psychology*, 62(3), 373-386.
- Sheldon, K. M., & King, L. (2001). Why positive psychology is necessary. *American Psychologist*, 56, 216-217.
- Shults, C. (2008). Making the Case for a Positive Approach to Improving Organizational Performance in Higher Education Institutions. *Community College Review*, 36(2), 133-159.
- Sjöblom, K., Mälkki, K., Sandström, N., & Lonka, K. (2016). Does Physical Environment Contribute to Basic Psychological Needs? A Self-Determination Theory Perspective on Learning in the Chemistry Laboratory. *Frontline Learning Research*, 4(1), 17-39.
- Smith, K. (2012). Lessons learnt from literature on the diffusion of innovative learning and teaching practices in higher education. *Innovations in Education & Teaching International*, 49, 173-182.
- Soini, T., Pyhalto, K., & Pietarinen, J. (2011). Pedagogical well-being: Reflecting learning and wellbeing in teacher's work. *Teachers and Teaching* 16(6), 735-751.
- Spilt, J. L., Koomen, H. M. Y., & Thijs, J. T. (2011). Teacher wellbeing: The importance of teacher- student relationships. *Educational Psychology Review*, 23(4), 457-477.
- Stubb, J., Pyhältö, K., & Lonka, K. (2011). Balancing between inspiration and exhaustion: PhD students' experienced socio-psychological well-being. *Studies in Continuing Education*, 33(1), 33-50.
- Tautila, V. (2017). Paradigm shift in higher education? *On the Horizon*, 25(2), 103-108.
- Tims, M., & Bakker, A.B. (2010). Job crafting: Towards a new model of individual job redesign. *SA Journal of Industrial Psychology*, 36, 1-9.
- Tims, M., Bakker, A.B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology*, 18, 230-240.
- Toivola, T. (2010). Yhdessä tekemällä: 11 tapaa linkittää T&K ja oppiminen. [Acting together: 11 ways to connect R&D and learning.] Haaga-Helia julkaisuja. Haaga-Helia ammattikorkeakoulu.
- Toom, A. (2012). Considering the artistry and epistemology of tacit knowledge and knowing. *Educational Theory*, 62(6), 621-640.

- Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. John Wiley & Sons.
- Tripp, D. (1993). *Critical incidents in teaching. Developing professional judgement*. London: Routledge.
- Tripp, D. (1994). Teachers' lives, critical incidents, and professional practice. *Qualitative Studies in Education*, 7(1), 65–76.
- Tynjälä, P., Välimaa, J., & Sarja, A. (2003). Pedagogical perspectives on the relationships between higher education and working life. *Higher Education* 46: 147–166.
- Tynjälä, P. (2008). Perspectives into learning at the workplace. *Educational Research Review* 3, 130– 154.
- Tynjälä, P. (2010). Pedagogy for professional expertise development. In K. Collin, S. Paloniemi, H. Rasku-Puttonen, & P. Tynjälä (Eds.), *Creativity, learning and professional expertise: The perspectives of education and working life* (pp. 79–95). Helsinki: WSOY.
- Töytäri-Nyrhinen A. (Eds.). (2008). Tanssii ammattikorkeakoulujen kanssa: Opettajuuden kehittämistä yhdessä. [Dancing with UAS – Developing teachership together.] Haaga-Helium julkaisusarja. Puheenvuoroja 3/2008, Haaga-Helium ammattikorkeakoulu.
- Töytäri, A., Piirainen, A., Tynjälä, P., Vanhanen-Nuutinen, L., Mäki, K., & Ilves, V. (2016). Higher education teachers' descriptions of their own learning: a large-scale study of Finnish Universities of Applied Sciences. *Higher Education Research & Development*, 35(6), 1284-1297.
- Van den Broeck, A., De Cuyper, N., De Witte, H., & Vansteenkiste, M. (2010). Not all job demands are equal: Differentiating job hindrances and job challenges in the job demands–resources model. *European journal of work and organizational psychology*, 19(6), 735-759.
- Van Eekelen, I. M., Boshuizen, H. P. A. & Vermunt, J. D. (2005). Self-regulated learning in higher education teacher learning. *Higher Education*, 50, 447–471.
- Van Eekelen, I. M., Vermunt, J. D., & Boshuizen, H. P. A. (2006). Exploring teachers' will to learn. *Teaching and Teacher Education*, 22, 408–423.
- Vangrieken, K., Dochy, F., Raes, E., & Kyndt, E. (2015). Teacher collaboration: A systematic review. *Educational Research Review*, 15, 17-40.
- Webster, L., & Mertova, P. (2007). *Using narrative inquiry as a research method: An introduction to using critical event narrative analysis in research on learning and teaching*. Routledge.
- Vermunt, J. D., & Verloop, N. (1999). Congruence and friction between learning and teaching. *Learning and instruction*, 9(3), 257-280.
- Vermunt, J. D., Bakkenes, I., Wubbels, T., & Brekelmans, M. (2008). Personal and contextual factors and secondary school teachers' adaptation of innovation. Paper presented at the 11th International Conference on Motivation, Turku, Finland, August 21–23.

- Voogt, J., Westbroek, H., Handelzalts, A., Walraven, A., McKenney, S., Pieters, J., & De Vries, B. (2011). Teacher learning in collaborative curriculum design. *Teaching and Teacher Education*, 27(8), 1235-1244.
- Voogt, J., Erstad, O., Dede, C., & Mishra, P. (2013). Challenges to learning and schooling in the digital networked world of the 21st century. *Journal of computer assisted learning*, 29(5), 403-413.
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge, Mass: Harvard University Press.
- Ware, H., & Kitsantas, A. (2007). Teacher and Collective Efficacy Beliefs as Predictors of Professional Commitment. *Journal of Educational Research*, 100(5), 303-310.
- Weick, K. E., & Sutcliffe, K. M. (2006). Mindfulness and the quality of organizational attention. *Organization Science*, 17(4), 514-524.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge university press.
- Wertsch, J. V. (1991). A sociocultural approach to socially shared cognition. In L. B. Resnick, J. M. Levine, & S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 85–100). Washington, DC: American Psychological Association.
- Whitley, B.E., & Kite, M.E. (2013). *The Principles of Research in Behavioural Science* (3th ed.). NY: Routledge.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, 26, 179–201.
- Yin, R.K. (2009). *Case Study Research. Design and Methods*, (4th ed.). Applied Social Research Methods Series, vol. 5. USA: Sage Publications.
- Yin, R.K. (2014). *Case Study Research. Design and Methods*, (5th ed.). USA: Sage Publications.
- Youssef, C. M., & Luthans, F. (2007). Positive organizational behavior in the workplace: The impact of hope, optimism, and resilience. *Journal of management*, 33(5), 774-800.

APPENDIXES

Appendix 1: Teacher interviews – themes and open questions

Your work and goals in guidance of students

1. Can you describe your guidance work? What type of guidance situations have you in your work with students?
2. What is guidance? What is guidance in your own work?
3. How would you describe *guidance* to your students?
4. What are your goals in guidance? What are your aspirations? What do you try to reach?

Your guidance work in practice

5. How do you try to achieve these goals?
6. What do you do when you guide the students? (Give examples)
7. What kind of role do you have as a teacher when you do the guidance?

Skills needed in guidance

8. What skills do you need when you are guiding your students? What does this mean in practice?
9. How do you evaluate the guidance work in your study program, in general?

Appendix 2: Email questionnaire in developing the integration of RDI & education

Dear participant of the coaching program!

The aim of this survey is to prime your thoughts for the forthcoming workshop and for the development of the integration of RDI & learning. This survey includes questions related to your own insights and experiences about the integration.

This survey will be carried out in each Education and Research Centre in connection with the workshops, so we are able to explore the staff's perspectives to support the development. The answers will help us to build common operation model and guidelines, as well as identify critical issues that are necessary to solve together.

The answers are analyzed with anonymity and kept confidential. At the end of this questionnaire, we will ask your permission to use your answers in development work and as research material.

Thank you in advance for your time and answers regarding the common development!

Firstly, please describe your background information:

1. Name your Education and Research Centre (ERC):
2. Name your study program and your work role:
3. Choose the option of the following statements, which suits your work:
 - a) I am working as an instructor/ a teacher/ a tutor guiding students learning in work-related learning projects. Yes ___ No ___
 - b) I am collaborating with the world of work in creating new learning projects for students. Yes ___ No ___
 - c) I have participated in developing the integration of RDI & education. Yes ___ No ___
 - d) I am involved in curriculum development. Yes ___ No ___
4. Do you want to add something special related to your work?

Current circumstances related to the integration of RDI and education

1. In the integration of RDI and education, the aim is that students can develop their competences in authentic, real-life environments as much as possible. How would you describe this situation in your own ERC, at the moment?
2. How easy and flexible is it for students to be able to study in authentic, real-life environments?

Needs for development and support

3. What things need to be improved in current operation models (in terms of integration of RDI & learning)?
4. How does the collaboration between different stakeholders need to be developed (between students, teachers and other stakeholders from the world of work)?
5. What type of support does the development need?

Sources of enthusiasm and interest related to teachers' work

6. What things influence your inspiration and enthusiasm in your work and in the development of new practices?
7. How are these things now, at this moment? (Please, describe the reasons why)
8. How could the inspiration and enthusiasm towards your work be enhanced?

Obstacles that prevent or hinder the integration process

9. What issues currently hinder or complicate the integration of RDI and learning?
10. What good ideas or desires do you have to solve those previously mentioned issues?
11. How can the leadership support the new operation culture?

Open space

12. Do you want to add something that we were not able to ask?

I give my permission that these answers can be used (with confidence and anonymity) in the development work and as a research material. Yes ___ No ___

Appendix 3: Team interviews in the planning stage and after the implementation of integrated modules

Interview for teacher teams in the planning stage

The aim of this interview is to study current experiences in planning the module implementation. The following questions are utilized in the interview. The focus is on themes 2, 3 and 4.

1. The planning stage

- 1.1. What is your common thread in the module implementation?
- 1.2. How far are you in planning the module implementation?

2. Differences between the previous and current situation

- 2.1. What are the main differences between the previous planning and the current planning of teaching?
- 2.2. What other changes do you recognize?

3. Experiences of the new way of working and planning

- 3.1. How have you experienced this collaborative planning of new module implementation?
- 3.2. What have been the challenges?
- 3.3. What have been inspiring and interesting?

4. Competence

- 4.1. What kinds of competences does this new way of working require from you?

5. Further plans

- 5.1. What things do you need to focus on next, in planning the module implementation?

Interview for teacher teams after the implementation

The aim of this interview is to study experiences in implementing the module. The following questions are utilized in the interview.

1. General evaluation of the implementation

1.1. Please evaluate your common implementation of the integrated module. How has it been?

2. Differences between previous and current situation

2.1. What are the main differences between the previous way of working as a teacher and this new one?

2.2. What other changes do you recognize?

3. Experiences of the new way of working and planning

3.1. How have you experienced this collaborative working with the integrated module?

3.2. What have been the challenges?

3.3. What things have been inspiring and interesting?

4. Competence

4.1. What kinds of competences does this new way of working require from you?

5. Other things

5.1. Are there some other things you want to mention?

Appendix 4: Follow-up questionnaires for teacher teams

The idea of this questionnaire is to collect your individual experiences during the module implementation. The questions focus on your common work as a team in implementing the module.

1. Where have you succeeded as a team?
2. What have been the reasons for these successes?
3. Where have you not succeeded as a team?
4. What have been the reasons for these failures?

ORIGINAL PUBLICATIONS