# Teaching and Learning at the University:

## Practices and Transformations

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Edited by

Larissa Jõgi, Meril Ümarik and Kai Pata

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Editors
*Larissa Jõgi, Meril Ümarik, Kai Pata*

# Chapter One

# University as a Space for Educational Innovations, Changes in Teaching and Learning

Larissa Jõgi, Meril Ümarik, Kai Pata

*The first chapter focuses on universities undergoing transformational change by discussing the complexity of educational changes and innovations at universities at multiple levels, highlighting the perspective of the institution and its academics and students in introducing educational innovation. The chapter gives an overview of the structure and content of the book drawing on various ongoing complex and multi-faceted changes taking place at universities with a special interest in the changing teaching and learning practices, but also transformations in the professional identities of academics and students.*

Universities and academic staff worldwide are faced with multiple changes and contradictory expectations. Neo-liberal universities functioning increasingly according to market principles have been required to diversify the roles, competence requirements and administrative burden of their academic staff. Universities are being forced to be global and local at the same time; they are expected to respond to new global challenges (e.g. climate change) by contributing to sustainable development and preparing students to be ready to solve the complex problems involved in global risks, but also taking an active role in the local community. 4.0 economies demand universities to prepare graduates with transferable skills and a multidisciplinary knowledge base that demands new pedagogical approaches.

In recent years, universities have experienced changes and developments that have had a meaningful impact on their strategies, visions, institutional

cultures and teaching practices (Bowden and Marton 2004; James & Biesta 2007; Englund, Olofsson & Price 2018). Developments and changes at universities require them to adopt innovative strategic approaches to support the professional development of academics, redesigning teaching practices and learning approaches, bridging research and teaching, and creating and developing innovations to support student learning (Gibbs 2009). Changes bring new norms, values and forms of teaching to the university, involving complex efforts on three interdependent levels: institution-wide, faculties and programmes, and individuals. These include initiatives that encourage academics to innovate, support the improvement of student learning, and adopt a learner-oriented focus (Pilot & Keesen 2008).

In order for changes to be transformative and sustainable in the long term, not only do programmes need amending, but the entire organization and organizational cultures often need to be changed. Furthermore, deep transformative changes and reform processes affect different layers of the institutional order, including organizational structures, such as regulations, norms, actions, methods of communicating and approaches to learning, but also the values and identities of academics.

## The focus of the book

The book aims to move from being theoretical and analytical to social, forward-looking and reflective. It is the result of the interprofessional collaboration of a broad range of scholars, offering divergent views on developments, transformations and perspectives on teaching and learning practices and culture at the university. The implementation of educational changes, reforms and innovations is always a complex process needing comprehensive analysis.

The most important method of learning is that which enables us to see something in the world in a different way (Bowden and Marton 2004, 81). This publication draws on various ongoing complex and multi-faceted changes taking place at universities with a special interest in changing teaching and learning practices, but also transformations in the professional identities of academics and students.

The studies presented here have attempted to explain and provide critical reflection on these complex processes using different theoretical

conceptualizations and empirical data sets from four different university contexts. This book follows the qualitative perspective of change processes, but combines a diverse set of research designs, including narrative and semi-structured interviews, the case study approach and questionnaires. Some of the chapters have followed the main ideas of the social-cultural approach, learning culture theory (James and Biesta 2007) and neo-institutionalism (Scott 2008). Learning cultures are seen as complex social practices through which people learn and change the culture, through which we can begin to think about transformations for improvement and change (James and Biesta 2007, 4). The neo-institutional approach and the concept of the three pillars of institutional order provided by Scott (2008) further explain the nature of transformative change and why changes introduced at the regulatory level have not always led to changed practices, norms and beliefs. Moreover, the frameworks of interprofessional educational outcomes and interprofessional collaborative teaching (Barr et al. 2000) have been applied in framing our ideas on changing relations at the university.

This book was initiated as a result of the research project "Teaching and Learning at University: Interdisciplinary perspectives" carried out at Tallinn University, Estonia (2016 –2019), which presents insights into the process of transformative change and educational innovation. An interdisciplinary team of researchers from the social, educational, and natural sciences and digital technologies started to observe the structural reform necessary for introducing an interdisciplinary learning approach at Tallinn University. This interdisciplinary learning approach is aimed at bringing about an organization-wide transformation in teaching and learning. Similar organization-wide reforms have been implemented in other universities too. Therefore, while chapters 2, 4, 5, 6 and 9 focus on the reform processes in Tallinn University, Estonia, others discuss similar organizational changes in other Estonian (chapter 7), Finnish (chapter 3) and Swedish (chapter 8) universities. Altogether, 15 scholars from four universities and three countries have contributed to this book.

We have divided the publication into five parts, encompassing micro-, meso- and to some extent also macro level analysis of processes at universities.

Part I: EDUCATIONAL INNOVATIONS AND TRANSFORMATIONS AT THE UNIVERSITY

Part II: INTERPROFESSIONAL TEAMS AND CURRICULAR MANAGEMENT IN THE CONTEXT OF TEACHING AND LEARNING AT THE UNIVERSITY

Part III: TEACHING PRACTICE, PROFESSIONAL IDENTITY AND THE DEVELOPMENT OF ACADEMICS

Part IV: LEARNING AT THE UNIVERSITY – THE PERSPECTIVE OF STUDENTS

Part V: COLLECTIVE REFLECTION ON THE PATH OF PROFESSIONAL TRANSFORMATION

**Part one** analyses the implementation of educational innovations by integrating micro, meso and macro level analysis. In chapter 2, educational innovation – the introduction of interdisciplinary learning at Tallinn University – has been analysed as a case study. Meril Ümarik and Larissa Jõgi applied theoretical frames from the management and implementation of innovation (e.g. Rogers 2002, Hockley 2014) and neo-institutionalism (Scott, 2008) in order to explain the mechanisms supporting the effective adoption of educational innovations and the process of institutionalisation. The authors argue that the successful implementation of educational changes at university is enabled by active support from the management, support for making sense of change, and collaborative learning and networking between academics. By drawing on Scott (2008), they argue that sustainable and transformative changes must encompass changes at the level of norms and beliefs and that this is a long-term process. Chapter 3 introduces a novel community-level perspective on pedagogical development and discusses the similar implementation of large-scale changes in the Finnish context – a pedagogical development programme and a pedagogical change agent programme at one Finnish university. Maria Clavert emphasises in this chapter the role of the department in the success of a university-wide reform aiming to improve the quality of teaching and learning and the role of informal pedagogical change agency by building connections between

the development strategy at the university level and individual development needs in local departments. This chapter demonstrates how the ability of departments and research groups to support pedagogical development defines the extent to which teaching traditions can be renewed in practice.

**Part two** focuses on changing relations between academics and society focusing on interprofessional collaboration and the role of the university as influential in society. Chapter 4 focuses on analysing the experiences of academics involved in interprofessional collaboration (IP) and team-working in the context of interdisciplinary courses initiated at the university. The chapter covers the key issues we need to be aware of from theoretical and practical perspectives in order to understand the importance of IP collaboration (including IP teamwork and IP coordination), and its characteristics and approaches to implementing IP in the context of teaching and learning at the university. Koidu Saia and Karmen Toros encourage support for thinking outside-the-box and increasing links between a wide range of actors both in academia and society. Indeed, future challenges demand interdisciplinary solutions and people with transferable skills such as team-working, time and process management skills and the ability to cross disciplinary borders and connect with society's needs.

Chapter 5 draws attention to the university's role of responding to society's needs as the focus of analysis. The role of the university in contributing to sustainable development has often been stressed in policy documents. However, in this chapter Mihkel Kangur, Liisa Puusepp and Toomas Trapido argue that the aims of the university as an influencer in society do not coincide with the aims of academics as individuals, as only a few academics bring the needs of society and relevant topics into the classroom. This chapter continues the ongoing discussion on the redefinition of the role of the university and the role of academics. "Everybody is writing papers, but nobody is reading papers; we are writing to nobody" refers to the idea that universities, academics and especially the educational sciences should rather be dealing with the most urgent challenges in society.

**Part three** reflects on the re-construction of professional identity, teaching practice and the professional development of academics. It focuses on the shifts in professional identities of academics and the development of academics in relation to changes at the university. In chapter 6, Larissa Jõgi, Meril Ümarik and Tuuli Oder have analysed how changes at the university

lead to diversified teaching practices and the integrated professional identities of academics, and how teaching practice and professional identities have been negotiated in response to rapid structural reform and the introduction of interdisciplinary courses and the resulting new demands on academics and teaching practice. Teaching practices are developed through the formation of professional identities and are experienced differently. As a result of the analysis of 48 narrative interviews with academics from five different disciplines, three distinct professional identity positions are presented – anonymous creators, upholders of a traditional teaching/learning culture, and active followers of change. These positions can be expected to influence the teaching and learning culture at the university in different ways. Chapter 7 focuses on the professional development of academics. Mari Karm and Marvi Remmik have analysed the professional working lives of novice teachers and their struggles. A qualitative longitudinal design with two phases of semi-structured interviews over a 2-year period was implemented with fifteen novice university teachers from different higher education institutions and settings. The longitudinal approach enabled the authors to understand how changes in the concerns of novice academics relate to changes in context, personal career and or teaching practices.

While previous chapters have mainly treated the changes at the university from the perspective of academics, the fourth part of the book places us in the shoes of the learner. **Part four** reflects on student identity and the learning experience. Students at all educational levels, including higher education, are diverse in terms of age, previous educational (but also socio-economic and ethnic) background and competence levels. Chapter 8 takes readers to the Swedish higher education context and discusses the experiences of non-traditional students, their struggles at Swedish universities and their transition to the labour market. The meta-analysis of two previous studies provided by Agnieszka Bron brings us to a better understanding of the identity struggles students overcome and discusses how to develop learning environments and support structures suitable for diverse groups of students in our universities. The longitudinal view is achieved using in-depth biographical interviews with non-traditional students. The findings can contribute to a better understanding of the non-traditional student experience and how to enhance their learning at university.

Chapter 9 returns us to an Estonian case and analyses student responses to interdisciplinary learning introduced at Tallinn University. The emphasis

on interdisciplinary courses aims to shift the power and responsibility associated with the learning process to the students. In this chapter, Aet Möllits and Priit Reiska argue that students tend to expect more control from the supervisors. Although the interdisciplinary learning experience is significant in developing transferable skills, such as critical thinking, communication skills, team working and time management (Bryant, Niewolny, Clark, & Watson 2014), facilitator support is necessary for students to reflect and make sense of their learning.

Reflection is the highest form of human reasoning or learning (Nyhan 2006,139). **The fifth and final part** of this book, with the concluding chapter 10 – *Paths of professional transformation in the changing institutional teaching culture of university* – reflects upon and summarizes some lessons learnt in regard to changes to teaching practices in the university and how these influence the professional paths of academics. Here a summary is presented of the main findings outlined in previous chapters on the possibilities for universities to operate as spaces for educational innovation.

The process of research, writing and editing has been time consuming and challenging, but has provided significant opportunities for all of us to collaborate, discuss, ask critical questions and reflect upon our own identities and professional realities, practices, values and beliefs as researchers. The collaborative process also gave us opportunities to reflect on our professional identity as academics, understand how professional identities differ in their complexity and uniqueness, and recognise that a professional identity is much more beneficial for academics themselves than for the university.

This book, which contains evidence-based qualitative research results, is expected to be of professional and methodological interest not only for academics, doctoral students and educational developers in universities, but also for those scholars, professionals and practitioners who work in the field of lifelong learning, organisational change and higher education policy. We believe that this book not only offers an opportunity for discussion on developments and changes at universities, but also sparks our curiosity and ideas for future research.

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# Part I:

# Teaching Practice, Professional Identity and Development of Academics

# Chapter Two

# Introducting Interdisciplinary Teaching and Learning at University as Educational Innovation: Life Project Courses

Meril Ümarik, Larissa Jõgi

*This chapter focuses on the implementation of educational innovation at university. Since 2016, interdisciplinary LIFE courses have been introduced as obligatory courses at one Estonian university aiming to change its teaching and learning culture. The active student role in planning and taking responsibility in their learning process is a central principle of the LIFE projects. By applying theoretical frames from innovation implementation research and the neo-institutional approach we aim to conceptualize the process of the implementation of LIFE courses and outline aspects we can learn from the case. The case study approach has been applied and triangulation of different datasets was used in the study.*

## 1. Introduction

Interdisciplinarity has in recent decades become an increasingly important focus and educational innovation for higher education institutions worldwide. Interdisciplinary teaching stresses the linkages and relations between different disciplines and has quite broad aims: enhancing interdisciplinary thinking and learning, teamwork and collaborative learning, learning from other disciplines (Weinberg and Harding 2004). Interdisciplinary learning experience has been considered significant for students as it aids students in applying and integrating disciplinary knowledge in order to solve real-

life problems, and developing critical thinking and problem-solving skills (Bryant, Niewolny, Clark, & Watson 2014).

This chapter is based on a case study focusing on the implementation of LIFE[1] project courses at one Estonian university (hereafter the university), which we regard as educational innovation supporting changes in the learning culture and an interdisciplinary approach to teaching at university. Since 2016, interdisciplinary LIFE projects have been integrated as compulsory courses (6 credits) into the bachelor and master level curricula as a new type of subject where students from different study fields carry out a collaborative project on a topic of their interest. The team consists of 6–8 students from at least three different study fields and are supervised by two or three academics or supervisors. The general aim of the LIFE project course is to support the development of general skills such as critical thinking, team-working and the ability to solve complex interdisciplinary problems. The LIFE project course differs from general courses as the academics as supervisors are not in the role of transmitting knowledge and learning tasks. Students are actively involved as teams in setting the aims and scope of the projects, and the role of the supervisors is rather to support the group processes and monitor the learning process. (Erialasid Lõimiv Uuendus (ELU) kontseptsioon 2018). The LIFE project courses are meant to carry the philosophy of student or learning-centred pedagogical approaches such as *collaborative learning*, *problem-based learning* or *active learning*.

Our study focuses on analysing the implementation of the LIFE courses. The analysis is led by the following central research questions:

– How has the interdisciplinary LIFE project course been implemented?

– How have the academics experienced the implementation process?

– What can we learn from the case as an implementation of educational innovation in a university?

We draw from the frameworks of innovation management/implementation approaches (e.g. Rogers 2002, Hockley 2014) in explaining the mechanisms inevitable in supporting the effective adoption of educational innovations at university. In addition, we make use of neo-institutionalism (Scott 2008) by explaining the institutionalization of changes as a complex process

[1] The direct translation into Estonian is "ELU", abbreviation for an innovation integrating disciplines

involving change covering three pillars – regulations, norms and the cultural-cognitive level (e.g. values and beliefs). Previous studies have shown that the implementation of educational innovations is never a linear process leading to an automatic adoption by all stakeholders. On the contrary, it has been proven that the implementation of educational innovations might not always lead to the intended results nor involve the expected long-term effects – a transformative change in learning culture (Holley 2009) or the institutionalization of changes (Scott 2008) at the university level.

The case study methodology (Yin 2009) has been applied, and different methods and data sets have been used in analysing the case from the perspective of different stakeholders – university leadership, university academics involved in supervising the LIFE projects and also those that have remained detached from the project courses.

## 2. Interdisciplinary teaching and learning as a prospective transformative change

The application of an interdisciplinary approach in higher education is justified by the complexity of the problem or phenomenon treated (Newell 2001). In our everyday working lives most problems require knowledge from more than one specialist field. Therefore, interdisciplinary teaching and learning at university are seen as integrative activities (Ashwin 2006, 130) and the emphasis is on enabling students to have interdisciplinary learning experiences and real-life problem-solving opportunities in order to prepare them for future professional activities. Interdisciplinary learning is generally understood as a learning situation where knowledge or modes of thinking, concepts, ideas of more than one disciplinary area has been integrated (Holley 2009, Bryant et al. 2014). Following the culture of learning theory (James and Biesta 2007), we understand interdisciplinary learning as a process that locates in the interaction between diverse concepts, contexts, disciplines and activities (James and Biesta 2007, 11). The interdisciplinary approach in teaching at university often involves open communication, creativity, closer contacts, co-teaching and collaboration between students in project groups and between academics in order to support the learning process for students. Therefore, the implementation of interdisciplinary courses such as LIFE projects requires a new institutional setup and not

only new approaches and support from the management level, but it also challenges academics to reconsider teaching strategies and students to change their roles. It challenges the existing roles of academics and makes them rethink their teaching positions and re-define their role primarily as a coach or facilitator of learning. Students need to take more responsibility and active roles in the learning process. This requires a deprogramming away from the mostly passive learning styles (Bryant et al. 2014).

Interdisciplinary teaching and learning pushes us to re-examine teaching and epistemology: existing concepts, contexts and activities, approaches and methods, but also the terminology used (Newell 2001). We can see clear connections between interdisciplinary teaching and learning and the student-centred or learning-centred approaches introduced worldwide. However, despite the policy tools introduced and investments made, studies indicate little evidence of a widespread adoption (Cox, McIntosh, Reason, & Terenzini 2011) or change in the culture of learning and teaching at the university level or of transformative change as argued by Holley (2009). Instead of solitary change or innovation in the practices or pedagogies applied in certain programmes or departments, transformative change means that change is pervasive and intentional, and has an influence on the institutional culture and impacts the members of the organization in terms of how they view themselves and their practices (Holley 2009, 334).

The neo-institutional approach and the concept of three pillars of institutional order provided by Scott (2008) further explains the nature of transformative change. Scott considers institutions as comprising regulatory, normative and cultural-cognitive pillars. While the institutionalization of change at the regulatory level is based on the introduction of new regulatory documents, the normative change is reflected in shared norms. However, change at deepest layers of institutional order (cultural-cognitive pillar) involves change in the shared conceptions and frames through which meanings are made (Scott 2008, 57). Only changes affecting the cultural-cognitive level – shared beliefs and understandings – could be considered transformative change (Holley 2009). University-level change that affects how teaching and learning and the roles in interdisciplinary teaching have been experienced can be regarded as sustainable educational change having a long-term effect.

## 3. Implementation of educational changes and innovations

It has often been argued that many parallel educational changes introduced in different educational sectors and levels have failed or have not had the expected long-term effects (Hargreaves and Goodson 2006, Wallace 2003, Sahlberg 2010) or sustainable changes in the culture of the institution (Gordon and Patterson 2008, Holley 2009). Educational change is multi-dimensional (Hargreaves 2005, 3) and it is evident that no educational innovation will be automatically adopted by all without resistance. According to the innovation diffusion approach proposed by Rogers (2003), changes that are generally perceived by the adopters as being advantageous for them and more compatible with their values and previous understandings, are also easy to try out before a full implementation, and are less complex and will be adopted more quickly. On the other hand, the reasons for resistance might be various including the fact that the purpose of the change has been poorly communicated, people affected have not been involved in the planning phase or they lack the confidence or capacity to implement the change (Hockley 2014).

Generally, the sense-making of educational changes has been regarded as a key mechanism for adopting educational change (e.g. Spillane et al. 2002, McLaughlin 2008). According to previous research the construction of a common meaning about the change that is influenced by the prevailing norms and the inner culture of the educational institution is what is needed (Ashwin 2006, Fullan 2007, Hargreaves 2005).

Spillane et al. (2002) provide a comprehensive model for understanding the sense-making process taking place both at the personal and social level. According to them, sense-making among teachers is determined by the interaction of three aspects: (1) the individual agents as sense-makers who interpret changes based on their prior knowledge and beliefs; (2) the social context characterized by prevailing norms and interactions influencing personal sense-making, and (3) the role of communicating the change policies and support system (e.g. networks, trainings etc.) facilitating the sense-making in regard to the changes. According to Spillane et al. (2002), the interaction of these three aspects decides how different stakeholders in the innovation process (e.g. academics and students in our case) understand innovation and consequently adopt the educational changes (Spillane et al.

2002, 388). Sense-making is also related to identity construction (Seashore Louis 2010,18) and may pose challenges for academics in re-interpreting their professional roles.

Creating professional learning communities and encouraging collaboration have been considered an effective way to facilitate sense-making and the adoption of changes (Stoll et al. 2006). Of course strong professional communities can also promote tradition and reinforce longstanding patterns of teaching practice, but these can also be innovative learning communities where collaboration leads to changes in professional practice (Mc Laughlin and Talbert 2001, Levine 2011).

Creating professional learning communities could be considered a strategy for institutional improvement (Levine 2011, 33) and many aspects are relevant to outline here. Hockley (2014) has provided a comprehensive model for how to handle change effectively in an educational institution. He emphasizes aspects that are similar to those mentioned previously by dividing these into three stages of change management: the planning, implementation and reinforcement phases. *In the planning phase* the vision of the change should be made collaboratively and the positive impact on different stakeholders and society should be discussed and clearly communicated to the wider range of stakeholders. *In the implementation phase* it is essential that coaching and training is offered, as well as encouragement and time resources being particularly important as well as ongoing communication of the change process and positive outcomes. *In the final phase,* Hockley (2014) argues it is essential to make sure that people are supported to handle any problems that arise and rewarded by success and achievement. The case of the implementation of LIFE course projects at Tallinn University enable us to analyse how those key dimensions of the successful change management model have been handled and how the implementation process was supported.

## 4. Methodological approach: case study

In order to understand the change process for different layers of institutional order, the case study approach (Yin 2009) has been applied. In a case study analysis, different data sources and methods are used and triangulated in order to achieve in-depth analysis of the case. Four semi-structured interviews with the rector and vice-rectors and 48 narrative interviews with two target groups (academics involved in supervising the LIFE projects and academics who were not involved in supervision) serve as the primary data source. A hybrid approach to the thematic analysis (Braun and Clarke 2006) has been used for the analysis of the interviews. First, the analysis started by reading the entire empirical material identifying segments of text that were related to the LIFE project and the experience of the teachers. Second, text-driven coding was conducted. The preliminary codes were named and renamed during several rounds of reading and re-coding of the interviews. Third, the codes were formed into themes and subthemes. The patterns of the main topics, such as the value of LIFE projects, roles of supervisors, methods used, development of the LIFE projects, and so on, enable us to understand the change process as experienced by different stakeholders and the possible causes of the polarised views. The interviews conducted with the university management were triangulated with the perspectives of the academics and documents related to the case (university regulations, guidelines for supervisors and students of LIFE projects, LIFE webpage etc.).

## 5. Findings

### *Implementation of LIFE courses as educational innovations*

Starting in the 2016/2017 academic year, interdisciplinary project courses have been introduced at the university. The first steps were taken in 2014 when the Vice Rector of Studies and a small team of initiators started to search for the conceptual frame for interdisciplinary teaching and learning at the university and map interdisciplinary teaching models in other universities. In 2016, the council for interdisciplinary projects was founded responsible for leading the development of the conceptual frame and pilot projects. In autumn 2016, the regular "LIFE Rooms" were introduced with the aim of providing academics a space for co-learning, constructive dialogue and sharing experiences, but also discussing the development of the LIFE courses (Korol 2017). Academics-supervisors were involved in the design and development process enabling them to have a sense of ownership of the changes, which was regarded as essential for the successful implementation of changes (Daly et al. 2010).

> *"I remember that I was at some kind of event, where LIFE was being prepared. Some representatives were invited from each institute and there was a roundtable organized and we worked in different groups. We did some group work and offered some models for how LIFE could be introduced. In principle, it can be said that "LIFE" was put on my table at a certain moment... It was still in the development phase, but still. I was told that you could be that person…" (Indrek)*

After the conceptual frame was established in September 2016, an idea market took place where the first pilot project ideas were introduced to students followed by enrolment in these pilot project courses (Korol 2017). Since the spring semester in 2017 LIFE project courses have taken place regularly and are obligatory courses in most curricula.

Supervisors of the LIFE project have joined the process at different stages and have been motivated by different aspects. In addition to a smaller circle of supervisors who were piloting the first LIFE projects, many became involved by accident as was the case with Lea.

*"By accident. I did not know anything about it. Perhaps I had seen the LIFE logo somewhere, but I did not know much about it. Last spring a lecturer from the interpreting department wrote to me that you know I plan to study interpreting and translating; would you be ready to become a co-supervisor. And I suddenly felt, why not do something more research-based, to come out of my comfort zone a bit…" (Lea)*

Being first invited by colleagues as in Lea's case or by students to be involved as co-supervisors, often the next phase was to initiate ones' own LIFE project idea. However, we can notice that from the perspective of academics not involved a certain barrier had been perceived between LIFE supervisors and those "without LIFE". Hille, currently an active supervisor, argues that it was a bit difficult for her to get herself involved.

*"I stuck myself into LIFE. I must say, at the beginning it seemed to me that LIFE is like some kind of sect that operated on its own at the university. I have also said this to LIFE people that it seemed to me that they are doing things on their own. They go somewhere. They do something fascinating, but I kind of do not belong there. As those people I asked about LIFE, they were not very open. Then I gathered up my courage to write to the LIFE coordinator and the response was that of course you are welcome… It seemed that it is what I had been waiting for, to connect research with practical knowledge and different fields…" (Hille)*

Among the supervisors there are also those that admit they became involved mainly because of the feeling of responsibility. After the LIFE course was introduced as an obligatory course, there was the need for courses for students in order to support their roles as co-supervisors. Being the head of the curriculum Riina explains that she asked her colleagues and after finding out that they were still not ready to supervise any LIFE courses, she took the responsibility and started her own project. Irrespective of the different levels of motivation, during a relatively short period of time increasingly more teaching staff became involved.

## *Mechanisms supporting adoption of change*

As argued by implementation research (Hockley 2014) and also the cognitive approach (Spillane et al. 2002), it is essential to provide sense-making support and competence development during the process of implementing changes. From the very beginning different support mechanisms have been built into the process of implementing the LIFE projects in order to introduce institutional changes. Regular meetings of supervisors in the form of "LIFE Rooms", training for supervisors, spring and autumn seminars and joint study trips to foreign universities were designed to support academics as supervisors and develop their competence for supervising interdisciplinary teams, but also for creating a collaborative culture. The supervisors themselves admit that for them the most valuable aspects brought by the LIFE project were the social and communicative aspects – getting to know academics from other departments.

> *"I think for lecturers it contributes to the community feeling and networking... Develops the network [of teaching staff]. You get to know people from other institutes, staff from other departments and get to know what they are doing" (Kalle)*

Informal events in the LIFE project community were regarded as providing a space to reflect on one's professional work and work related problems, but also triggering other interdisciplinary cooperation. Often new projects have been developed jointly with other co-supervisors, but community gatherings have also led to other kinds of cooperation.

LIFE projects and building a learning community can be considered as contributing to the professional development of academics. LIFE Rooms with different themes such as design-based learning, self-reflection, conflict resolution in teams, co-teaching and group processes serve as a learning and self-reflective space for academics. Interdisciplinary and societal needs as central ideas in the LIFE courses have been perceived as opening new doors, providing self-development and self-fulfilment as argued by Lea:

> *"I think it is about networking that you learn to see the world from different angles. Usually you take it from the perspective of your own discipline. You have a picture in your head. But you see that they think totally differently*

*and it is so interesting!... And then some cooperation projects start, you think that something should be done perhaps. It gives you some kind of … a community feeling...” (Lea)*

The LIFE projects also provide a platform for trying something different and that aspect is also highly valued by the supervisors. LIFE projects provide more freedom for both students and supervisors and is also an opportunity to try methods and approaches that could be used later on in traditional courses as well. Learning from colleagues, the exchange of good practice and experience can be expected to support the diffusion of student-centred approaches and society triggered teaching across the university.

*“Well, that LIFE could be like an experimental lab, for testing some other things as well. For example, as there is a lecturer that might be angry when you have relocated his classroom. When we do it together with him during the LIFE course, he has an opportunity to see that it really works. In that sense it is a slightly wilder polygon. It is a great opportunity that you could invite people there so they can see that you can do things differently” (Aivar)*

Many supervisors have perceived the LIFE courses as “eye-opening” and an inspiring experience directing them to reconsider their previous teaching practice.

*“I have talked to those who have done [the LIFE projects] about my experience. There is even no point talking about it with others as they do not understand it. Those I have talked to are all really excited. I think it has given me an absolutely different perspective on teaching. That you can do things like that as well. Why shouldn’t I do my ordinary course as projects …” (Meeli)*

As the empirical findings reveal, from the perspective of the LIFE supervisors there is also a certain gap in the understandings of “LIFE people” and people without LIFE experiences. According to innovation diffusion theory, the decisive step in terms of the sustainability of the innovation is to bridge the gap between early adopters of the innovation and the late adopters (Rogers 2003). Communicating the innovation to a wider circle of stakeholders not involved in the planning and early development phase is one of the key factors (Hockley 2014). At present, the LIFE courses and supervisors of the LIFE courses are highly visible at the university level – there is a

special section in the weekly university newsletter with news from the LIFE courses, and interdisciplinary courses have been promoted in connection with different events. Moreover, supervisors have been awarded in terms of special grants for self-development and study trips to other universities. In autumn 2018/2019, special LIFE spaces with high-tech smartboards and flexible configurations have been created in the university in order to support group activities and the experiential learning of students. Just as the LIFE space contrasts with other traditional auditoria, the special identity of the LIFE supervisors can also be identified. It has often been joked that there are those "with LIFE", or "LIFE experience" and those without.

## *From full freedom to increased standardization*

The introduction of interdisciplinary teaching and learning at the university has been managed by the vice rector and provided with a variety of support mechanisms. As it grew in scale, the quality assurance problematics were also raised, and that has also resulted in increased standardization and regulation.

In general, the supervisors enjoy the freedom involved with the interdisciplinary project courses. However, compared to the piloting semester and the beginning phase, the LIFE courses have gradually become more and more regulated and standardized. By now, there are clear guidelines for students and supervisors, guidelines for mid-term and final presentations, course plans and work time sheets (LIFE webpage). From the 2019 spring semester, a specific time for the LIFE sessions has been planned into the course timetables. Moreover, a new system has been introduced so that before publishing the LIFE course ideas for students, these ideas are reviewed and accepted by a special board. These quality assurance measures have been regarded by some in negative terms as decreasing the freedom inherent to the LIFE projects.

> *"At that time, those LIFE regulations, university-level regulations were very flexible. Actually, we did as it felt right to do. There were no mid-term reports or final reports. It was like life itself…" (Kaire)*