Tampere University of Applied Sciences

Snowball Effect- In-service Teacher Training in Finland to Action Change

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ABSTRACT

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Snowball Effect- In-service Teacher Training in Finland to Action Change

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This study will examine the prospects of the local implementation and the professional growth stories of four teacher participants, two from Brazil and two from Portugal. It will describe and clarify the role and importance of self-leadership and motivation as well as educational leadership when implementing educational innovations in a somewhat traditional setting going through a paradigm shift. Central phenomena studied is the paradigm change in education and teacher change agency.

All of the participants in this study took part in several and different Tampere University of Applied Sciences (TAMK) Global Education programmes during the past few years. The study will focus on the emerging theories that will rise from the analysed interview data with grounded theory approach, trying to set light to the leadership issues and professional growth stories that have made educational change in local contexts possible and the reasons behind it.

Study result shows that bottom-up leadership to action change in educational context worked in the cases studied. The study supported the idea that actual change happens at a grassroots level in real classrooms as long as the teachers are well prepared, motivated and continuous learners who are given the time and space to adapt and implement change actions in their learning communities.

Findings suggest that teachers act as change agents in their own educational context especially if they are surrounded by a numerous and motivated learning community and supported from the top down. Trust is one of the key elements for a successful implementation of educational innovation and new methodologies. This study supports the statement that in-service teacher trainings with a Finnish partner helped the process of change in educational context. Looking at your own education context with different and comparative lenses and being given sufficient time to do so, enabled the teachers to adapt and take advantage of the good practices of proven educational successes like Finland has.

Key words: paradigm change, teacher education, change agency, bottom-up leadership

CONTENTS

ABBREVIATIONS AND TERMS

BraFF	Brasileiros Formando Formadores
FiTT	Finnish Teacher Trainer Diploma
GE	Global Education (TAMK)
GT	Grounded theory
IFB	Instituto Federal do Brazil
IPB	Instituto Politécnico de Bragança
TAMK	Tampere University of Applied Sciences
VET	Vocational (professional) education teacher

1 INTRODUCTION

1.1 Background

Tampere University of Applied Sciences hereafter referred as TAMK delivers commercial services in global context providing education related services to other countries since 2011 through TAMK Global Education (GE). Most of the Global Education services' products are tailor made. However, the base of the products come from the curricula of TAMK's degree programs. GE's customers are mostly private and public Universities, Institutions and Governmental bodies (TAMK Intranet). TAMK provides cost-covering services to its global partners in targeted market areas.

This thesis will study the anticipated impact of the local implementation and the professional growth stories of four teacher participants, two from Brazil and two from Portugal. All of the participants took part in numerous and different TAMK Global Education programmes during the past few years. The study will focus on the emerging theories that will rise from the analyzed interview data trying to set light to the leadership issues and professional growth stories that have made educational change in local context possible and the reasons behind it.

This study will be of service both for TAMK as a reference case, a proof of concept of the training programmes provided for the global market and as a testimony of actions taken in the country of delivery both at individual and at leadership level. What has been done to move towards innovative teaching methods and the change processes in both countries. What are the effects of allowing sufficient flexibility for teachers in their work by empowering and enabling actions? The nature of the study method will be grounded theory, which will allow the study to become a living laboratory and the theories will emerge from the in-deep interviews and observations that emerge from the various models of training provided by TAMK Global Education.

Topic was chosen to understand the reasons behind a successful implementation of concepts and methods from the Finnish teacher education and educational innovations in Finland to local contexts in Brazil and in Portugal. What are the

occurrences of the trainings for the teachers at personal and professional level and what are the changes this has brought to them at professional level. What are the key aspects, during and after the training process, to be able to initiate a system change beyond individual classroom and take it to the working community and state level by multiplying actions?

1.2 Objectives

The objective of this study is to investigate the lived experiences of the participants, after going through a training process in TAMK, Finland, with the intention to implement educational innovation and modern teaching methods in their own schools and universities. What this has meant to them both at personal and at professional level and the implications and challenges involved in local context. This study will describe and clarify the role and importance of self-leadership and motivation as well as educational leadership when implementing educational innovations in a somewhat traditional setting going through a paradigm shift.

The study explains the content of trainings that the people being the object of the study have gone through to be able to proceed with the innovation implementation and their results and prospects. All of the trainings had a set goal of implementing innovative teaching methods and change in their local education ecosystems from both parties of the training, service provider and the actual client. All four people gave their permission to use their names in the study, but a deliberate choice of using only one voice to bring a unified voice from the change network arose from the data during the analysis process.

The objective of the study is to develop a practical knowledge or theory concerning the implementation of educational innovations using empirical data gathered from the participant interviews. The objective is to learn from the lived experiences of the participants, when going through a training process to be able to implement innovation in their own schools and universities, and what this has meant to them. This study will describe and clarify the role and importance of educational leadership when implementing educational innovations in a fairly traditional setting going through a paradigm shift.

1.3   Research questions

This study identifies the key leadership roles and emerging theories which will support and enable implementation of innovation in schools and universities in more traditional setting like Brazil and Portugal (if compared with Finland). What kind of changes are expected to happen in the local educational community. The study discusses whether educating teachers and educational leaders in Finland and by Finnish trainers can be a driver to change the paradigm in Brazil and in Portugal.

1.4   Research approach

Study will use the interpretative phenomenological approach that focuses on the need to understand how humans view themselves and the world around them and seeks to reveal and convey deep insight and understanding of the concealed meanings of everyday life experiences. (Robson et al, 2017). Grounded theory is both a strategy for doing research and a particular style of analyzing the data arising from that research (Robson et al, 2017, 161)

In everyday life, actions are interconnected and people make connections naturally; it is part of everyday living and hence grounded theory catches the naturalistic element of research and formulates it into a systematic methodology explain- Cohen et al in 2011. The grounded theory approach was selected for this study as it gives the study a methodology for the analysis of the rich interview and observation data and does not determine the theory in advance giving space for the theory to arise from the data.

The interviews are expected to reveal common nominators between the interviewed. This study will possibly reveal some patterns that can be observed in the successful implementation of 21st century teaching methods and application of student centered approach.

2   CONCEPTUAL AND THEORETICAL FRAMEWORK

2.1   Tampere University of Applied Sciences (TAMK) as Education Provider in the Global Market

TAMK delivers commercial services in global context providing education related services to other countries since 2011 through TAMK Global Education (GE). Most of the GE services' products are tailor made. However, the base of the products come from the curricula of TAMK's degree programs. GE's customers are mostly private and public Universities, Institutions and Governmental bodies (TAMK Intranet). TAMK provides what could be called cost covering services to its global partners in targeted market areas. Before 2011 TAMK has a long cooperation history in other countries through international projects, cooperation agreements, development aid or international projects funded by external sources e.g. World Bank or European Union.

Finland has plenty of experience in developing schools both in Finland as well as in Asia, Africa, South America and Eastern Europe. This cooperation has also developed our own Finnish education system and educational institutions. Working together helps to share the best practices and to understand what is special and important for each country and culture now, and in the future (Tulevaisuusvaliokunta/Committee for the Future, 2016). It is important to understand that these cost-covering services are a strategically made choice of the university and also an investment to the future of TAMK´s own knowhow.

"All well-performing education systems today have become that way by learning carefully from other countries" (Sahlberg, 2018, 13). Finland has done exactly this; benchmarked, copied and adapted to its own system from other nations, their best practices at its time. Qualified teachers were sent to other countries to learn from others. To the understanding of the researcher nation, culture, politics, policies and framework are just different in each country and this is why localization or tropicalization is so important to achieve local impact and long-term effects in the field of education.

"With the leadership of Finnish educators, policymakers and part-ners, "Global Education Brand Finland" can serve as the spearhead of a positive new wave of global education reform; become a prime engine of economic prosperity and growth for Finland; serve as a vehicle for creativity, innovation, and world leadership for Finland; and provide great benefits for the children and teachers of Finland and the world." William Doyle, 2017, Finnish education export strat-egy.

During the year 2018 TAMK has trained nearly 2300 participants in its various training programmes both in Finland and in participants home countries. The TAMK Global Education turnover from 2018 is close to one million Euros.

2.2 Brief description of the training programmes that the participants took part in Tampere University of Applied Sciences (TAMK)

2.2.1 Brazil: VET Teachers® for the Future- Professional Development Certificate & Finnish Teacher Trainer Diploma (FiTT)

Please Programme called VET Teachers® for the Future/ Professores para o Fu-turo – Professional Development Certificate, that took place between the years 2014 and 2016 in three separate cohorts, preparing all together 120 teacher par-ticipants from Brazil. It is a continuing education programme for higher education and vocational teachers for the Federal Institutes of Brazil. The programme, ap-plied in nature, combines teaching and learning in projects, teaching in English and subject-specific project skills. The focus of the programme is competence-based, student-centered pedagogy and learning in the world of work (tamk.fi). The participants spend between 5 to 3 months in Finland in a formal training pro-gramme and afterwards were send back to their home institutions for a local de-velopment part of the programme, which was guided online from Finland.

The Finnish Teacher Trainer Diploma (FiTT). A programme for those Federal Institute teachers who have graduated from the VET Teachers for the Future – Professional Development Certificate programme. The purpose of the FiTT programme was to scale the impact of the VET Teachers for the Future programme into the Brazilian context, taking into account Brazils regional contexts. The focus of the programme was to develop a specialization course in Portuguese and provide high quality and fit-for-purpose teacher training competences. Through the specialization course, the Federal Institute system can change their organizational teaching culture and shift the paradigm from teacher-centered to learner-centered, in order to activate and motivate their students and provide deeper learning experiences (paragraphs from the actual offer).

As a result of FiTT programme a local specialization course was created by the Brazilians themselves called Brasileiros Formando Formadores, BraFF to multiply the modern teaching methods to local Brazilian context. It took a whole year in Brazil to reinitiate and launch the programme because of the political uncertainty and lack of funding for the project. The first module, took place in Brasilia, Brazil in December 2018. For February 2019 a new face-to-face week is scheduled, in addition to other phases that occur at distance. At the end of the program, a model of training is ready to be replicated to the teachers and servers of the Federal Education Network (IFB Intranet news, 2018). The picture number 1 is from the graduation ceremony of the FiTT where the BraFF was launched for the first time to public. Moment of culmination of a long term cooperation with Brazil and happy moment both for the participants and the Finnish trainers involved in the projects.

PICTURE 1. The Finnish Teacher Trainer Diploma Programme (FiTT) graduation ceremony in Finland, September 2017 and announcement of Brasileiros Formando Formadores (BraFF).

2.2.2 Portugal: Pedagogies and Tools to Facilitate Company Cooperation & Coaching Process Training & Consultation and Design of a New Master´s Programme

For TAMK Global Education partner in Portugal three different programmes were delivered during the year 2018. First of them consultation for the reengineering or redesign of professionally oriented study for the Instituto Politécnico de Bragança (IPB) and the region of Bragança, Portugal including training in Finland, online coaching and training in local context in Portugal by Finnish facilitators. A programme called Pedagogies and Tools to Facilitate Company Collaboration purpose was to implement innovative models of practice-based learning in cooperation with the local community and industry. Picture 2 is from the actual training session of the teachers where activating teaching methods that form a core of the first training are used.

PICTURE 2. Pedagogies and Tools for Teachers to Facilitate Company Collaboration for the region of Bragança, Portugal training session in Finland, February 2018.

The second part of the training was coaching process training first in Tampere, Finland and then in Bragança, Portugal for the evaluation and design of other innovation initiatives for the region including both the coaches as well as the local students. The third and last part was the consultation and design of a programme for a new Master´s programme based on TAMK Proakatemia team learning model together with the help of TAMK coaching team. Proakatemia at Tampere University of Applied Sciences is a degree programme where students study entrepreneurship and learn in team enterprises, learning-by-doing. The entire programme in based on the ideology of coaching.

2.3   Paradigm change in education

As the Fourth Industrial Revolution unfolds, says Armand Doucet (2018) in his book Teaching in the Fourth Industrial Revolution, Standing at the Precipice, it is certain that how we learn, earn and live will go through fundamental shifts. Many of today´s education systems are already disconnected from the competences needed to function in today´s labor markets and the exponential rate of technological and economic change threatens to further widen the gap between

education and the demands of the global workforce. Now more than ever, it is critical that we create a new integrated, agile, sustainable and lifelong education system that matches the needs of the future. Fortunately, entirely new ways of teaching and learning have also begun to emerge and can point out the way to the future.

"If competition has defined the education of the past, collaboration, empathy and teamwork will define the education of the future"(Doucet, 2018).

Pasi Sahlberg, a Finnish educator and author who has worked as schoolteacher, teacher educator, researcher, and policy advisor in Finland and has studied education systems, analysed education policies, and advised education reforms around the world explains in his book Finnish Lessons 2.1 (2015) how creative curricula, autonomous teachers, courageous leadership and high performance go together. *"What we can learn from educational change in Finland is that creating a good and equitable education system for all children is possible, but it takes the right mix of ingenuity, time, patience and determination."* (Sahlberg 2015, 204).

Educational change mandates what changes to implement and how to implement them. These aspects interact and shape each other (Fullan 2001). Fullan (1998) argues that understanding a problem and identifying the changes needed to correct them are entirely separate steps from knowing how to bring these changes about. Fullan claims that the implementation of educational change involves change in practice (2001. 38). What we can learn from Finland has to do with the intentional and deliberate choice to emphasize the thorough preparation and training of teachers, the development of high-quality workforce of teachers, and purposeful efforts to eliminate differences in student achievement. (Hammerness et al 2017, 2).

The challenge that arises is in how teachers negotiate the relationship between new reform efforts and the subjective realities embedded in their individual and organizational contexts and their personal histories. How these subjective realities are addressed is crucial for whether potential changes become meaningful at the level of individual use and effectiveness (Fullan, 2001). Sahlberg suggest

(2013) that if education policies prevent teachers and students from doing what they think is necessary for good outcomes, even the best teachers will not be able to make significant improvements in these systems. Competition among schools, prescriptions of teaching and learning, and test-based accountability are the most common toxic aspects of today's school systems.

New Media Consortium (NMC) Horizon Report 2107 on Higher Education talks about expanding access and convenience to education, innovation as a vehicle for advancing global economy, fostering the authentic learning by using peda-gogical trends like project-based learning and competency-based learning, track-ing and evaluating evidence, improving the teaching profession and spreading the digital fluency. The report sets straightforward guidelines for strategic plan-ning and decision-making for postsecondary education leaders across the world

2.4 *The author´s pre-understanding*

The author of this study works in TAMK Global Education as a Customer Rela-tionship Manager since the beginning of Global Education activities in 2011. Be-ing involved in the field of education and in the development of these change agency programmes gives her a broad understanding of the phenomenon to study. The topic comes from the authentic world of work. It will serve the author to improve her own work and the work of the whole team as well as gain further understanding and perspective what is happening after the trainings in local con-texts.

3 MEHODOLOGY

3.1 Description of the methods used

This is an applied grounded theory study focusing on the qualitative data. A grounded theory study seeks to generate a theory which relates to the particular situation forming the focus of the study. This theory is grounded in data obtained during the study, particularly in the actions, interactions and processes of the people involved. It has proved particularly attractive in novel and applied fields where pre-existing theories are often hard to come by (Robson 2002). This approach was selected to study rather the actions and impact than a theory itself. The researcher and the interviewed persons know each other in person from the training periods that they have spend in Finland and this creates a situation of relax and complicity between them enabling a rather informal interview situation.

All grounded theory studies have the following common features independently of it´s different versions and variations in its form and epistemologies.

- theory is emergent rather than predefined and tested
- theory emerges from the data rather than vice versa
- theory generation is a consequence of, and partner to, systematic data collection and analysis
- patterns and theories are implicit in data, waiting to be discovered
- grounded theory is both inductive and deductive, it is iterative and close to the data that give rise to it (Cohen, Manion and Morrison 2011, 598)

Grounded theory was chosen as a data handling strategy to be able to rather build the theory based on the data from the interviews than rely and test an existing one. This will give space to a naturalistic element seeking to connect the actual complexity of actions that took place after the trainings in both countries. As Glaser (1996) says : "grounded theory is appealing because it tends to get at exactly what´s going on". Flick (1998) writes that "the aim is not to reduce complexity by breaking it down into variable but rather to increase complexity by including context". (Cohen, Manion and Morrison 2011, 598)

"The purpose of a theory in general is having a strategy for handling data collected during a research, and also providing suggestions for how to describe and explain the research findings". (Glaser and Strauss 1999, 3). This approach was chosen to help the researcher with the process of data handling and analysis by breaking it into different categories and sub-categories.

Corbin and Strauss (1990) write that in qualitative research, sometimes the analysis of the collected material is not commenced before the data collection phase is over. In contrast, in grounded theory, the analysis phase starts right after the researcher has received the first hint of data related to her study. This is the core of grounded theory as a method of analysis and theory generation. The researcher learns from the collected information to be better able to conduct the next phases of the ongoing research. Creswell (2008) explains how systematic design in grounded theory emphasizes the use of data analysis steps of open, axial and selective coding, and the development of a logic paradigm or a visual picture of the theory generated and this is why the method serves well this study about paradigm change in education.

3.2   Theory as a process

Theory is not an enduring form of information. In order to be up to date, it is rather an ever-developing entity than a ready product. This is why it could be described as a process (Glaser and Strauss 1999, 32) – iterative and flexible. As grounded theory study progresses, categories and theoretical concepts are developed. The literature related to these concepts is reviewed and a dialogue takes place between literature and the researchers emerging ideas. The researchers' data have priority over those of other studies in the same topic area. Concepts arising from the research can be compared with those emerging from other studies. In this sense, the literature can become a potential source of data (Gerrish et al 2010, 161). That is why in this thesis the aim of the study has been defined to manage to create a deeper understanding of how to implement innovation and to find solutions how to implement and anchor change in educational systems both in Brazilian and in Portuguese context.

Method will be a descriptive case study. "Case studies can establish cause and effect (how and why); one of the strengths of the case studies is that they observe effects in real contexts, reorganizing that context is a powerful determinant of both causes and effects, and that deep understanding is required to do justice to the case." (Cohen et al 2017, 289). Advantages of case study method include data collection and analysis within the context of phenomenon. The priority will be in qualitative approach with a goal to assess the outcomes of the programme and to see if the planned goals were achieved. Both participant observation and interviews will take place. Using in-depth interviews where the respondents are largely free to say whatever they like based however on the list of question provided approximately one month prior to the interview to the participants.

3.3   Coding the data

In grounded theory there are three types of coding: open, axial and selective coding, the intention of which is to deconstruct the data into manageable chunks in order to facilitate and understanding of the phenomenon in question. (Cohen, Manion and Morrison 2011, 600). In coding researchers use their background knowledge about the context of the textual passage being investigated and, in general terms, their knowledge about the area of investigation. The result of the work is an interpretative text which adheres to analytical thinking about the phenomenon and which often contains questions about how the phenomenon might be further investigated (Böhm 2004, 271).

Coding is the process of disassembling and reassembling the data. Data are disassembled when they are broken into apart into lines, paragraphs or sections. These fragments are then rearranged, through coding, to produce a new understanding that explores similarities, differences across a number of different cases. The early part of coding should be confusing, with a mass of apparently unrelated material. However, as coding progresses and themes emerge, the analysis becomes more organized and structured. (Ezzy 2002, 94)

Coding may be described as the deciphering or interpretation of data and includes the naming of concepts and also explaining and discussing them in more

detail. The explanations are reflected in coding notes. The result of coding is then a list of terms as well as an explanatory text. 'Code' is a technical term from the analytical procedure and signifies a named concept. In the data indicators are sought of the phenomenon being studied. (Böhm 2004, 270).

3.3.1 Open coding (phase 1)

Open coding involves exploring data and identifying units of analysis to code for meanings, feelings, actions, events and so on. The researcher codes up the data, creating new codes and categories and subcategories where necessary, and integrating codes where relevant until the coding is completed. (Cohen, Manion and Morrison 2011, 600).

In open coding data are 'broken down' analytically, and in this the principle of grounded theory shows itself: from the data, that is from the text, a succession of concepts is developed that may ultimately be used as building blocks for the model. In coding researchers use their background
knowledge about the context of the textual passage being investigated and, in general terms, their knowledge about the area of investigation. (Böhm 2004, 271).

3.3.2 Axial coding and selective coding (phase 2 & 3)

Axial coding step serves to refine and differentiate concepts that are already available and lends them the status of categories. One category is located at the centre and a network of relationships is developed around it. (Böhm 2004, 272). In the phase of axial coding, the intention is to consider everything that has emerged in the course of the research and to identify what was important, what was changed due to it and what were the consequences. If this has not been done, there will be gaps in data as the practice is not developed according to analysis of previous actions and conditions. (Corbin and Strauss 1990). In selective coding a core code is identified, the relationship between that core code and other codes is made clear. (Ezzy 2002, 93)

3.4 Sampling

As Robson (2002) explains, sampling in grounded theory studies is purposive. Sampling of people to interview or events to observe is so that additional information can be obtained to help in generating conceptual categories. Within grounded theory, this type of purposive sampling is referred to as theoretical sampling. That is, the persons interviewed, or otherwise studied, are chosen to help the researcher formulate theory.

In theoretical sampling , data collection continues until sufficient date have been gathered to create a theoretical explanation of what is happening and what constitutes its key features. It is not a question of representativeness but, rather, a question of allowing the theory to emerge. The data collection process, then, is determined by the emerging theory and it´s categories. Hence theoretical relevance is a key criterion for further data collection and sampling, rather than, conventional sampling strategies and criteria. (Cohen, Manion and Morrison 2011, 599).

3.5 Use of memos

Charmaz (1990) describes how throughout the grounded theory procedure, grounded theorists create memos about the data. Memo writing is a tool in grounded theory research that provides researchers with an ongoing dialogue with themselves about the emergent theory. "In memos, the researcher explores hunches, ideas, and thoughts, and then take them apart, always searching for the broader explanations at work in process. Memos help direct the inquirer toward new sources of data." (Creswell 2008, 447).

4   FINDINGS

4.1   Application of the methods

The interview data and observation of the interviewed during their training process in Finland gave sufficient amount of data to be able to create emergent theories out of it. The empirical data of this study is qualitative and it is referred and transcribed from the authentic recordings into written form using automated transcription from audio. Since these transcription tools utilize artificial intelligence technology the text is then revised once again to avoid errors. Recordings produced a total amount of 38 pages of transcript data to code.

Semi structured interviews took place at the end of 2018. The two Brazilian participants, one female and one male, were interviewed face-to-face in Tampere at the end of November 2018. The two other participants, both female, from Portugal were interviewed using videoconference technologies (Skype and Zoom) at the end of December 2018. The participants were pretty much free to say whatever they like, but they were given a list of 10 preparative questions to be able to know what would the interviews be about. The research questions were selected on a basis of previous knowledge of the researcher from the trainings and to find common arising themes among the interviewees or on the contrary if some separation between the data could be found between countries or participants. The questions intend to shed light to actions posterior to the training to understand better the changes and their impact in the local context. Below a list of the actual questions send to the interviewees approximately one month prior to the interview.

- Tell me about how and why you ended up choosing teaching as your career? Reflect on your preparation to become a teacher.
- In what ways have professional growth activities or training you have been involved in the last couple of years impacted your role in your campus or community? Describe me the steps that were necessary to make this happen.
- Are there specific sources or individuals you consider to be the most influential in forming your current practice/teaching?

- What kind of recent actions you have implemented that you found to be successful or personally satisfactory?
- Did you receive support from the leaders and if so what kind?
- What were the major obstacles?
- How do you understand empowerment? Have you experienced that personally?
- Suppose you had an opportunity to design professional development training opportunities for other teachers like you. What would these look like?
- Has peer mentoring made an impact in your career path? Describe what kind.
- What are the kinds of challenges you face in your career nowadays?
- Do you think a change is necessary in your own educational context? What can you do? Why is it so important?
- Is there additional information regarding your access to meaningful and continuous professional growth which you would like to share?

Minimal prompting was used by the researcher during the interviews. The sequence of the questions remain constant as the actual wording, but some supplemental questions vary throughout the interview. Important themes emerge from stories that the participants share about an area of common interest with the person making the study. The findings of this thesis will be presented in a theoretical framework in the Findings and Conclusions chapters.

4.2   Background of the research participants

All four interviewed participants have been taking part in different TAMK Global Education training programmes both in Finland as well as in their countries of origin. All of them are teachers in their home countries and two of them also researchers. The intension was to identify from the background information and researchers prior knowledge those who might be most open or eager to become and act as a change agent in their own institutions and take them as a target group. Purposive sampling of a group of rather homogeneous people was se-

lected to the interviews to be able to see if there were significant differences between the two countries and to create a possible comparative aspect between those if the data would suggest so.

Two of the participants were interviewed in situ in Tampere, Finland in the end of November 2018. They come from Brazil and they have been involved in a long term cooperation process and have spent a significant amount of time in different occasions between the years 2016 and 2018 in TAMK Global Education tailor-made programmes. During these years both participants have taken part in two different programmes. VET Teachers for the Furure, Professional Development Certificate, as well as in Finnish Training the Trainers Programme, FiTT, where 20 selected participants from the trained 120 participants of the Teachers for the Future programme created a programme for multiplication of the learned for the national context called Brasileiros Formando Formadores, BraFF (Brazilians Forming Trainers), initialized at the end of 2018.

The two other participants come from Portugal and were interviewed by online video tools, Skype and Zoom, in the end of December 2018. Both of them have also spent time in Finland in three different occasions, but in a shorter period of time. Their first programme was to set up the basis for commitment towards change, defining the strategy to introduce active learning and innovation tools to their course units and understanding the coaching process in higher education setting as well as trying it out in their own learning environments. Their following programmes were about creating and implementing an innovative masters programme to their university curriculum applying modern coaching tools and activating teaching methods with the help of TAMK´s coaching team.
The two persons from Portugal interviewed for this Master's thesis took part in all of the three trainings during the calendar year of 2018.
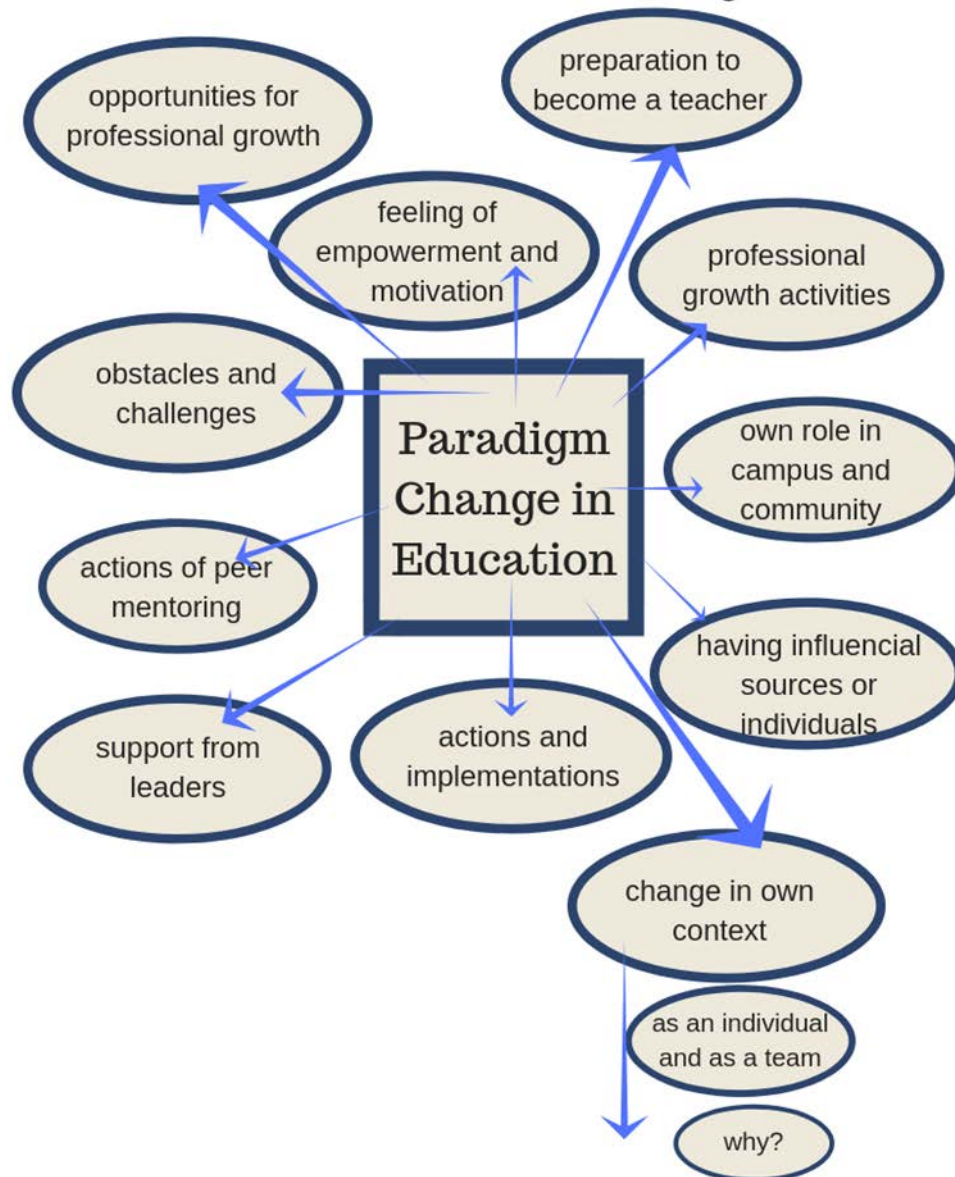
The common nominator for all participants is that all of them come from a longer term cooperation with TAMK in a programmed and planned way using collaborative methods to achieve the set goals for their trainings in Finland. All of the four participants showed applied and deep knowledge and understanding of the Finnish teaching methods and could be identified as change agents.

4.3 Coding process of the study

Initial mind map that was created after transcribing the interviews and reading them through a couple of times to understand better where the data starts to take the study. The emerging central paradigm that seemed to evolve everything is the paradigm change in educational context in both countries of the interviewed persons. There were three phases in the coding and analyzing of the interviews or data to be studied. The phases move from the specific to the more general, trying to find key elements of the phenomenon, using an open coding (phase 1), grouping the elements into categories and identifying the interrelations among them, using an axial coding (phase 2), and creating the emergent theory to offer an explanation or explanations of a phenomenon, using a selective coding (phase 3).

Open coding from the interview transcripts produced a huge amount of data, all together 38 pages of documents, that was then used to create an initial mind map to posteriori start with the actual axial coding and memos. Initial mind map that can be seen below was created to help to get the big picture and to visualize the phenomenon under study.

Initial mind map to start coding

opportunities for professional growth

preparation to become a teacher

feeling of empowerment and motivation

professional growth activities

obstacles and challenges

Paradigm Change in Education

own role in campus and community

actions of peer mentoring

support from leaders

actions and implementations

having influencial sources or individuals

change in own context

as an individual and as a team

why?

PICTURE 3. Initial mind map to start the coding into themes.

Axial coding part of the study took several weeks of going back and forward with the interview transcripts. The axial coding process indicated four main topic that this study is concentrating. There are four areas to study, presented in the next chapters, that will form the basis for the selective code that emerged from the interview data; Inspired teachers acting as change agents in their own context, leading educational change with the support from the top leaders and in cooperation with a supportive network. This selective code will gather the final synthesis part of this chapter. No distinction is made between the respondents deliberately

to carry out one voice of a network or a community of practice. All the cursive statements in this chapter are actual wordings of the interviewed persons.

Open codes	Axial codes	Selective code
Initial lack of formal preparation to become teachers. Researcher versus teacher. Ending up as a teacher. Rotating positions. Modeling others.	Rotating positions from student to teacher without initial teacher preparation.	**Inspired teachers acting as change agents in their own context, leading educational change with the support from the top leaders and in cooperation with a supportive network**
Training creating the credential to become a role model. New role in school and community. Multiplying the knowledge. No hands-on experience before Finland. Understanding new ways through reflection.	Moving from teacher to accredited and reflective role model and a multiplier of knowledge.	
Motivational and important persons for the change of mindset. Support from the system. Observe the world. Bring something in exchange for the leaders.	Feeling of motivation and power together with trust from the mentors and leaders is necessary to overcome challenges.	

Overcoming the policies and legal issues. Becoming a different teacher. From passive to active. Feeling confident about your own actions. Empowered with others in a network. Being a change agent. Importance of sharing with peers. Can we keep on growing with the pace of actions needed for the change? Changing for the sake of the students. Statistics to proof in favor of change to change legal obstacles. Together we are stronger.	Empowered change agents need a solid network to move from passive to active.	

PICTURE 4. Axial and selective codes (final version)

The memo process in the study had various stages working with colored post-it notes creating different subcategories and notes that can be seen in this final version of the memos. Grounded theory studies do not often show the memo process in the study and it is deliberately added here to give this study a visual aspect and as it gives the basis for writing out the findings of the study. These

memos as well as the interview materials were constantly revised by the researcher while writing the findings of the study as the grounded theory method suggests.

MEMOS

Theorizing write-up of ideas about substantive codes and their theoretically coded relationships as they emerge. An instrument for outflow of ideas, and nothing else for my Master in Educational Leadership thesis.

TRAINING AND PREPARATION TO TEACH

Before and after
Impact for ones career
Gives credential for actions
Seeing things done in a different way

IMPACT IN LIFE AND PRACTICE

Never experienced anything similar
Changing everything in life (teaching, personal, research)
Multiply
Implement
Importance of understanding and reflecting
Finding own path, way of doing things
Investment in teachers
Great student feedback
Not possible to go back to old system

LEADERSHIP & SELF-LEADERSHIP

Feeling of empowerment
Importance of self-leadership
Strong in a network
Be open and be together
People will join you (sooner or later)
Budgeting for teacher training and learning environments
Trust the teachers
Stand behind, support, go ahead
Change set as a strategy
Seen as a return of investment

PICTURE 5. Memo 1 including the parts; training and preparation to teach, impact in life and practice and leadership & self-leadership.

MEMOS

INTERNAL

Change in self
Finding/ having motivation
Feeling of empowerment
Colleagues (other teachers)
resistance or interest
Own coping with time management
Before and after training
Understand and reflect
Takes time
Importance of sharing
Measure impact & results

EXTERNAL

Need for change from the society
Policy change
Financial support
Legal system
Inspections
Colleagues (other teachers)
resistance or interest
Time given to new tasks and role
Importance of sharing
Convince with impact, statistics
and results
Giving back

CHALLENGES

How to change local policies
Resistance from other teachers
Financial support for studies, actions and implementation
Not believing that change is possible, that I can change and make a
difference
Introduce new methodologies with fixed curriculum

PICTURE 6. Memo 2 including the parts; internal, external and challenges.

MEMOS

CHANGING ROLE IN LIFE AND IN PRACTICE

Change of role in after training (career and community)
Giving back the investment made
Before and after- no turning back to old ways of teaching
Will of the management for change
Born from the top leaders
Seeing with your own eyes- see to believe
Trust- believing and relying on the skills of the teachers for change
Keeping the students motivated, happy
Positive feedback from students
Further investments (learning spaces and further development and new training)
Be open & be together
Strong in a network

CONNECTING THE DOTS...

Communities of practice
Teachers/ coaches leading the change
Feeling of empowerment to action change
Becoming a change agent
To enable change work with those willing to change
Resistance- ask why? Hidden and valuable reasons for it?
Importance of trust and support from the leaders
Importance of handling uncertainty
Wait for the results to emerge- trust the process
Taking ownership

PICTURE 7. Memo 3 including the parts; changing role in life and in practice and connecting the dots

4.4   Axial coding findings

4.4.1 Rotating position from student to teacher without initial teacher preparation

What was common to all the four interviewed persons is that all of them had no formal teacher preparation when they started as novice teachers. Some of them had some shorter in-service training during their careers and two of them became teachers to be able to practice research, since there were no research positions alone in their educational institutions. The training to become a teacher is implicit in some careers in Brazil (eg. "letras"), which is an *undergraduate course for people who want to become a researcher and most likely a teacher.* These undergraduates nor the masters courses include pedagogical subjects, methodologies or tools for the actual teaching profession. Following statements made during the actual interviews illustrate this.

"As a novice teacher I was never prepared to teach. I basically learned by doing."

"First time that I had the preparation to become a teacher was here" (meaning TAMK, Finland).

"One day a teacher was absent and they invited me to go, at first I hated it. I was very shy."

"The thing that motivates me to be a teacher was the fact that I want to be a researcher."

Teaching was a natural choice for all of interviewed as they all enjoy teaching despite the fact that the interviewees described teaching somewhat challenging in both countries (Brazil and Portugal) due to the huge amount of students per classroom (up to 60), the teaching hours with little or none reserved for the planning and development of their teaching activities and the political influence in the educational sector. Many of them talked about influence of good teachers in their years of study as a motivator for the career choice. One of them also mentioned the fact that the school or university management had money budgeted for their own trainings, but none for the teachers, which was strange to him.

"The directors and the managers have courses and coaches, and we are teachers and we are passing the contents, subjects to our students and we don't have time to do study. This is strange."

"Teaching is a complex profession that requires advanced academic education. Current trends in many parts of the world suggest just the opposite: If you're smart, the thinking goes, you can teach; with clear guidelines and specific standards in hand, almost anyone can teach. These practices run counter to what we see in Finland". (Sahlberg 2013, 132)

"It was very easy for me to just adapt changing the position in the classroom, rotating from being a student to becoming a teacher."

"I became a teacher in my image of my teachers."

Leaving teachers in charge of the student learning without the understanding how people learn is something that should be changed in the modern societies. This leads to the fact that students that are considered so called "good students" choose teaching as a career choice and end up teaching as they liked to be taught, maybe not fully understanding the way different learners can be supported or helped in their learning process, not to mention the new generations and the requirements of technology enhanced learning. To the understanding of the researcher leaving teachers without proper formation is sending them to work without proper tools to do so.

Fullan explains (1993); We need action that links initial teacher preparation and continuous teacher development based on moral purpose and change agentry with the corresponding restructuring of universities and schools and their relationships. Systems don't change by themselves. Rather, the actions of individuals and small groups working on new conceptions intersect to produce breakthroughs. New conceptions, once mobilized, become new paradigms. The new paradigm for teacher professionalism synthesizes the forces of moral purpose and change agentry. "Successful education systems are more concerned about finding the right people who will then be properly educated to become career-long teachers." (Sahlberg, 2018, 63).

4.4.2 Moving from teacher to accredited and reflective role model and a multiplier of knowledge

The training seemed to have a profound impact in the lives of the four interviewed that can be witnessed in their statements. The feeling of empowerment and credential that the participants gained through the trainings seemed to be an important factor for all four. There is a before and after as a common nominator for all of them.

"I am before and after Proakatemia. It's a mark."

"Being able to come to Finland in 2016, I think that it was very impactful for my career."

"But ever since I came back from Finland, it feels like I was given some sort of credential. Coming to Finland gave me this accreditation you know. It's not a power, it's an accreditation of knowledge. It gets people to invite me to visit them and do the workshops with their campuses and their staff."

"I am completely different as a teacher as I was in the past."

If schools are to change to meet their increasingly urgent needs, teachers will have to move from being trained or developed to becoming active learners. Significant change will require educators to alter their attitudes and behaviors. (Easton 2008, 755). These local change processes in their own learning environments are a continuous learning process for these four educators. Try and error, readjustment of activities and processes. Reporting to network for support and similar experiences and keeping their leaders updated on what is going on.

The goal in all these TAMK development programmes has been spreading the knowledge and multiplying effect. Leadership comes implicit in Finnish teacher education programmes as all teachers in Finland have plenty of autonomy about

their teaching and methods they decide to use with their students. All four participants had the profile, will and desire to be in the teaching profession and with the continuous hunger to learn more, to become a life-long learner.

Sahlberg (2011) writes in Finnish Lessons book about how an important—and still voluntary—part of Finnish teachers' work is devoted to the improvement of classroom practice, the advancement of the school as a whole, and work with the community. Because Finnish teachers take on significant responsibility for curriculum and assessment, as well as experimenting with and improving teaching methods, some of the most important aspects of their work are conducted outside of classrooms. The teachers that were interviewed all of them trained in Finland told how they experiment and improve their teaching in the local context as a normal practicum. Words like, *authentic projects, project based learning, demand participation, teach each other, organize workshops, peer mentoring etc.* are common practices for these educators now. These teachers can be called educators that are willing and able to go the extra mile for their students. Following fraises were mentioned in the interviews.

"*I don't have much time but in the future I wanted to do more training programs in pedagogical issues. To learn and to understand how I can improve and to be more empowered in my profession.*"

"*Sometimes you have expectations for other people. That's very unfortunate because you cannot have expectations for other people. You have to have expectations for yourself.*"

"*I believe that we should not wait our directors for example, we can go ahead we can go out to discover what different kinds of development training there are. This is what I have made.*"

"*You need to do this and this and this, but you need time, you need to grow and reflect, and grow and reflect and so on, to identify your own path. Try to understand what is the better way to go, a path of Portugal is not the path of Finland, but each with its own path.*"

"Teachers' role as facilitators and mediators is like scaffolding for a new building. It is a process of creating minds through providing new tools based on multidisciplinary learning research, and continuous dialogue about new artifacts, human beings and environments. It is empowering people through learning." (Niemi 2009.1).

Fullan (1993) talks about the change agentry and describes more than twenty years ago, that to have any chance of making teaching a noble and effective profession teachers must combine the mantle of moral purpose with the skills of change agentry. But we are facing a huge dilemma. On the one hand, schools are expected to engage in continuous renewal, and change expectations are constantly swirling around them. On the other hand, the way teachers are trained, the way schools are organized, the way the educational hierarchy operates, and the way political decision makers treat educators results in a system that is more likely to retain the status quo. One way out of this quandary is to make explicit the goals and skills of change agentry. To break the impasse, we need a new conception of teacher professionalism that integrates moral purpose and change agentry, one that works simultaneously on individual and institutional development. One cannot wait for the other.

One of the teachers describes how she had lost the motivation and actually was away from teaching during a period of time because of the change in the teaching activities and in the institution itself, she felt that the student were not the same anymore. "*I think it was 10 years ago I felt that I had no impact and I have no importance for this institution and the system. I was just a teacher. I left the school for one year. To think a little bit about life. And I understood after, that I really enjoy teaching. If I start repeating - I have the power to change things. I have the power to change the lives of those kids, in a good way. So, I had to be a good teacher. I started to try to improve and go to trainings on my own. I felt some sense of empowerment!*"

Faculty are challenged by large classes, and heterogeneous students who learn in a variety of ways, with different learning skills and abilities. The emphasis is changing from knowledge as content to knowledge as process. Teaching methods need to be chosen that will develop the skills and competencies needed in a

knowledge-based society, and on top of all this, constantly changing technology requires instructors to have analytical frameworks to help choose and use technologies appropriately for teaching. (Bates 2015, 196). Understanding the expected role and taking the steps towards that is not something that can happen in few days. It takes time to reflect upon things and build around that. What seemed also an important factor to all four was the fact to be away from ones daily obligations back home. To have the time and space without the rush to go home and daily activities. Start with a blank canvas. Be surrounded with others that have the same goal.

"*My role changed because I received that training.*"

"*Trainings that I had in Finland changed, I can say that changed almost everything in my life, in the teaching area and also as a researcher and as a person.*"

"*I believe this is having some impact in the community and in the school in the campus now, because we are implementing these new techniques and these new ways to teach and things are starting to change.*"

"*You need time to understand and we need time to reflect what were we doing here and there in Finland also.*"

"*The Proakatemia for me, it was very important to be there during this last year, I understood very well what was my role! I had to leave the school, I had to leave all my colleagues, to leave all my ideas outside the room and I started thinking really about growing and the way I acted with my students with my colleagues and in life.*"

"Role changes mean additional support for teachers and administrators. Educators need financial support for the days they are learning and also for the days when they follow up on their learning, collect and share data, analyze results, solve problems, and coach, mentor, and observe one another." (Easton 2008, 759). The importance and the necessity for the training of the change agents cannot be overlooked. They seek opportunities to learn and improve education in a planned and systematic manner because they are motivated to accomplish their

own and collective goals (see Fullan 1993b; Lukacs 2012). Fullan states in his article dating already more than twenty years back that:

"The new standard for the future is that every teacher must strive to become effective at managing change" (Fullan 1993, 9).

4.4.3 High need of motivation and trust from mentors and leaders is necessary to overcome challenges

Results from the interview showed that all four teachers have the full support from their leaders. Teachers talked about the fact the they had been given the freedom and possibility to make changes in their classes and institutions and report to leaders the results as they go. The will to make the changes were born in the top management of the institutions or at state level and they placed the trust to implement those changes to these teachers. Of course the leaders have been following the whole process closely as well as being part of it themselves. What seemed to help this process, for example in the case of Portugal, was the fact that the top leaders took part in some of the trainings themselves gaining better understanding of the required steps to be taken in local context and the requirements needed for the teachers to be able to do so.

"Leaders support me because they say, that's okay because you give back what you´ve missed."

"Both my dean and my principal they've always been very supportive for me to come to Finland. And they've always kept on the support of course on the other hand I've always been very supportive of their actions."

"They (leaders) always say, we believe in you, we all believe in this set of persons that want to try a different thing. So go straight ahead. And if you need something, tell me. So yes, we have all the support."

"Since the leaders went to Proakatemia and can see what happened there. Yes. I have total support of the leaders."

Research has shown that autonomy, social support, and an innovative and social climate are important job resources for teachers to cope with the challenging (external) demands of their work (Hakanen et al. 2006, 495–513). Contextual factors, such as job resources, may empower teachers to act as change agents (van der Heijden, Beijaard, Geldens et al. 2018, 350). School leaders encourage teachers to question their own beliefs, assumptions, and values and enhance teachers' ability to solve individual, group, and organizational problems. Furthermore, providing intellectual stimulation can also make teachers believe that improving the quality of education is both an individual and collective enterprise. As a consequence, teachers are more willing to invest their energy in continuous professional learning. (Thoonen et al. 2011, 520-521). The interviewed teachers talk about *wanting to learn more about pedagogy and teaching, investing their own time making changes, thinking outside the box, finding satisfaction and reward in their new tasks.* This study supports the fact that given the autonomy, support and the innovative and networked working climate the teachers act as agents of change in their local communities.

"In the past, I have to say that no, this was not the strategy of the institution. So the strategy of the institution was to fill the legal requirements. Now also the institution and the leaders of course understood that it is not enough to gather students. It is important to keep them in the classes and keep them motivated because if they are motivated, they will also say to other candidates, for example, that this is a good institution and that we can receive more students with these feedback."

"Without money we cannot do this kind of things. But yes in the last years, they are being very supportive and they are making really huge investments to improve our training skills in these new ways to teach."

"We hope that next year we can show some results about this approach and became the first university in Portugal to have a different way to learn."

National policy making is inevitably a process of bricolage; a matter of borrowing and copying bits and pieces of ideas from elsewhere, drawing upon and amending locally tried and tested approaches, cannibalizing theories, research, trends and fashions and not infrequently flailing around for anything at all that looks like it might work. (Ball 1998, 126). All four interviewed were worried about the effects of policies and politics in their own context and if these would allow them to take change actions further. Despite that they also felt confident about the fact that they can and will do changes in their own institutions and report and lobby these to the decision makers and authorities to let them know what kind of results were achieved and this way affect the future policies and decisions.

4.4.4 Empowered change agents need a solid network to move from passive to active

The interviewees talked about *being a role model to others, leading the way* and *showing example*. The word change agent was mentioned only couple of times, but it does not mean that they could not be considered as such, just the wording that they use are different with the equivalent meaning. From the conversations with the teachers emerged couple of very important messages. Proper preparation is needed to have the accreditation, tools and feeling of empowerment. "Successful educational change process is function of shaping and fine-tuning good ideas as they gradually build leadership capacity, teacher agency, and ownership" (Sahlberg 2018, 84).

To the understanding of the researcher the change is possible only if you have the trust of the leaders, enablers of the change. Without the qualified and trustful network scaling change actions might be difficult to achieve.

"People don't believe, they don't believe we can change. They don't believe themselves they can change. Leading them into believing that we can change and we can only do that by showing them examples."

"I think in terms of education being empowered, it's not just teaching with quality. I think it's being able to collaborate. I think when you're empowered and when

you believe in what you do. And you see that you can change. You see change in your actions. I think when you're empowered you invite more people to join you and then you're empowered together, along with people where you're in coherence within your actions alongside more people. You've become strong in a network. I think empowerment for me is that. Definitely, that's the network!"

Teachers who are aware of not only a wide array of teaching methods, but also of learning theories and their epistemological foundation will be in a far better position to make appropriate decisions about how to teach in a particular context. Also, as we shall see, having this kind of understanding will also facilitate an appropriate choice of technology for a particular learning task or context. (Bates 2015, 121). Technology enhanced learning formed a substantial part of the training of the Brazilian teachers as they lack of proper e-learning platforms and even Internet connection, especially in the more rural areas, and the pedagogical use of those technologies. One of the interviewed teachers from Brazil is currently working on a data tool for project based learning to innovate in his campus.

All four teachers find motivation in their students. They have understood that the students of today need different approaches and activating teaching methods to keep them coming to the classes. What seemed to inspire many of them was the independent and autonomous way that the students are handled in Finland. In the researchers' opinion students of today, that are being brought up in a digital age won't be sitting passively in the classroom, they need more challenges and activating teaching methods to keep them motivated and actually showing up in class. Bates (2015) writes about new technologies and how the needs of learners in a digital age require a re-thinking of traditional campus based teaching, especially where it is has been based mainly on the transmission of knowledge. This means re-assessing the way you teach and determining how you would really like to teach in a digital age. This requires imagination and vision rather than technical expertise. Learning goals that are appropriate for learners in a digital age need to be set. The skills students need should be embedded within their subject domain, and these skills should be formally assessed.

"I started to understand that most of the students are, many students were passive in their classes. I had to change that. I introduced in my classes more tasks that demanded active participation."

"We need to change because our students are very, well not independent and not autonomous. So we need help them to grow up as individuals."

"Now, I cannot be a traditional teacher. I don't know what you did to me? But it's not possible anymore to just show slides and speak."

In Finland teachers' capacity to teach and to work collaboratively in professional communities has been built systematically through academic teacher education writes Sahlberg (2011). He tells that a smart strategy is to invest in quality at the point of entry into teacher education. The Finnish example suggests that a critical condition for attracting the most able young people is that teaching be an independent and respected profession rather than just a technical implementation of externally mandated standards and tests. Teachers' strong competence and preparedness are the prerequisites for the professional autonomy that makes teaching a valued career argues Sahlberg. On the other hand and to the understanding of the researcher the in-service teacher training, especially in those countries where there are no initial teachers training at professional and higher education level, can be a life changing opportunity for those teachers already in teaching profession. The study suggests that networks is the anchor and support that a change agent needs to take his/her work to a second phase of the change and multiplying outside own institution. Informal talks and sharing both successes as well as failures is important. All of the teachers had gone through difficult times during their change process and without the help of the network it would have been tempting to give up.

Jelmer Evers a teacher from Netherlands, nominee for several international teacher prices and a co-founder of TEN Global, Global teacher and Educator Network with Education International argues in the book Teaching in the Fourth Industrial Revolution that it is crucial to enhance teacher agency to be able to flip the system. He also says that fostering a network plays a crucial role. Teacher networks within the school and professional networks outside of the school. The

best professional development of teachers is closely linked to their practice; the same goes for school and system change (Evers et al., 2018). As David Fros and John Bangs (2015, 102) write in Flip the System "We have to create networking arrangements that enable teachers to not only build professional knowledge together but also to inspire others to act strategically to bring about change." Jelmer Evens continue that there is an activist component to this since educational policy may be influenced through the networks. The following statements from the interviewed show that this process is already initiated both in Brazil and in Portugal by these educators and they are willing to fight for their cause, they are prepared to show statistical indicators, student feedback, give testimonies, prepare reports and talk to the influencers and decision makers.

"You have to start small because you start small with the people who want change. And those are the ones who are going to help you strengthen the network and increase it and increase it. And then when once you see change has overcome the whole country. So that's my idea."

"Maybe that's one of the things that influences us the most. It's important to share."

"A sense of connection is very important because we are not alone in this process."

4.5 Synthesis of selective code

Inspired teachers acting as change agents in their own context, leading educational change with the support from the top leaders and in cooperation with a supportive network.

Changing the ways in which teachers teach or students learn and changing the curriculum without also changing the teachers, the classroom, the school, and the community, might not achieve the desired outcomes. Change is linear, in that it occurs down an authoritative succession of participants. Change in itself

whether top-down or bottom-up does not guarantee meaningful change. (Vandeyar 2017, 376). The challenge must be to empower all practicing teachers to enact change agent characteristics in a professional collaborative learning environment while fostering the collective purpose of enhancing students' learning. Teacher education lays the basis for the teaching profession and sufficiently needs to equip prospective teachers to meet the challenges of their future profession. As such, it is important to focus on educating prospective teachers and preparing them to become teachers as change agents. Openness to experience appears to be an important personality factor for all change agent characteristics, especially for being innovative at the classroom level and being focused on their own knowledge development. Participative decision-making, vision building and teacher collaboration appear to be the most important contextual factors for fostering change agent characteristics. (van der Heijden, Beijaard, Geldens et al 2018, 370).

The study results seem to demonstrate that not only the pre-service teachers require these skills for change agency. Despite the lack of initial preparation to become teachers, the interviewed teachers benefitted from the trainings and have initiated change agency action in their own context. It is important to mention that they all have also the support from the leaders but the initiative are born from teacher actions expecting to generate change in the institution. To the understanding of the researcher and this study seems to supports that actually preparing in-service teachers might be a good way of implementing change in local contexts. As in both of the countries involved in this study the hierarchical system if much stronger and it might work for the benefit of the already experienced teachers to take responsibility of the change actions as they already have experience in teaching, thus understanding the variety of students, and an existing network in their community.

Important theories like the paradigm change in education, change agency thinking and bottom-up or grassroots leadership emerged from the analysis of the date. These theories are explained and looked further in the following chapter to try to understand better the complex phenomenon under study.

4.6   Results

Results are presented as literature reflections as well as empirical results from the data process. The practical knowledge of the researcher in the area of study and the direct involvement in the delivery process and development of the programmes the interviewees took part in, can be considered also an important part of the analysis of the data.

4.6.1   Understanding change agency in education

A change agent is seeking or supporting some sort of organizational change in, for example the strategy, the structure, the systems and processes, the people, their capabilities, the management style, and the shared values within the context of the organizational culture. The change agent crafts interventions that either align with the current culture- the way things are done around here- or deliberately countercultural, introducing and role-modeling new ways of behaving. Often the change agent has to facilitate people and the organization going into unknown, with the known knows being a clear boundary to the scope of the project, but with the final destination as yet unclear, to be fleshed out or discovered. (Cameron& Green 2012. 215). This is both a challenge and an opportunity as data shows in the study. There are no exact right answers or ways of doing things. This can be a huge responsibility for these teachers, with a possibility of successful implementation or a failure. The uncertainties and continuous leaning from success as well as from failures require change agency tools and methods. "Transforming culture- changing what people in the organization value and how they work together to accomplish it- leads to deep, lasting change" (Fullan 2002, 18).

Hattie (2012) argues that being a change agent is a specific mindset that teachers have about their teaching profession. Moreover, Lukacs and Galluzzo describe change agents as "teachers with areas of expertise that allow them to initiatives in a 'bottom-up' design with the school as the unit of change, and not only the classroom" (2014, 103). Data in the study talks about change of mindset that happened during the trainings, this is mentioned by all of them as one of the

changing points of their careers. Without the training process, the learning community that was built during the training and the time and space to do so are behind the successful implementations in the light of the data analyzed.

"Although teacher leadership is not a commonly used term in Finland, most teachers have a sense of leadership as members of a professional learning community in their schools" (Sahlberg 2013, (18-24).2). Teacher leadership and autonomy is something that is lacking from some more traditional education systems like in both of these countries, Brazil and Portugal. What the date seems to show is that there is still a huge amount of room for changes within the classrooms and institutions. What seemed to be a fact also is that in case of Brazil these seemed to come from the teachers own time unlike in the case of Portugal where teachers were given more time for the actual development work within their working hours.

In Finnish schools, leadership is closely tied to teaching. All school principals are teachers, and they must be qualified to teach in the school they lead. Actually, in addition to their leadership role, most principals in Finland also choose to teach. This helps establish trust-based professional relationships and communication between the teachers and principal. Many principals see themselves as part of the pedagogical staff rather than as administrators, and most belong to the same union that the teachers do. Distributed leadership is a common strategy in many Finnish schools. High-performing school systems are doing well because they've found a way to empower people in their school systems to do their best. (Sahlberg 2013 (18-24).3). The fact that Finnish school principals are also teachers gives Finland an advantage compared to systems were schools are at times, led by people without formal knowledge about education and teaching profession and are appointed by political decisions and often changed every four years.

Teachers as change agents appear to distinguish themselves by how they practice their profession and by being positive, committed, and accessible teachers who are passionate about education and the teaching profession. Teachers as change agents are receptive to collaborating with colleagues and others and possess the necessary skills for collaboration. (van der Heijden, Beijaard, Geldens et al 2018, 349). They understand the importance of collaboration with others for

their own continuous professional development and for improving teaching practices or implementing educational changes at school (Doppenberg et al. 2013; Meirink et al. 2010). Starting immediately with the pilots in their own learning environments which was an obligatory and important part of the TAMK training programmes guaranteed the multiplying effect of the trainings and to the understanding of the researcher made these teachers good examples of change agency and researchers of their own work.

4.6.2 Understanding bottom-up or grassroots leadership in education

Dr. Kezar, an expert of change, governance and leadership in higher education and her research agenda explores the change process in higher education institutions and the role of leadership in creating change. She says grassroots or bottom-up leaders are individuals without positions of authority who make change without formal power (Kezar 2012). Studies of grassroots leaders in higher education identify the contribution these leaders make to improving the institution through meaningful changes (Astin & Leland, 1991; Hart, 2005; Safarik, 2003). In fact, recent leadership research demonstrates the importance of leadership throughout organizations (at all levels) for furthering goals, meeting the mission, and creating change (Astin & Leland, 1991; Kezar, Carducci, & Contreras-McGavin, 2006; Pearce & Conger, 2003). All four interviewees share the fact that they do not possess positions of authority but are still in the position of making change in their own communities. Motivation comes from the fact that all of them enjoy working with the students and they work for their best interest.

Kezar (2012) explains An important part of the grassroots leadership process is deciding whether and how to converge with the efforts of individuals in positions of authority. Convergence is the joining of efforts between grassroots leaders and those in positions of authority and can happen in both directions. Individuals in positions of authority can persuade grassroots leaders to join their efforts or grassroots leaders can attempt to garner support from those in positions of authority. Pearce and Conger (2003) explain how onvergence or act of moving towards uniformity is important because numerous studies have identified the limi-

tations of relying only on top-down leadership for creating change: lack of cognitive complexity in developing solutions, lack of buy-in, and risk of putting all authority in a small number of people becoming leader dependent. Also how a broader leadership approach that involves grassroots leaders typically leads to more complex solutions and ideas, increased expertise to draw on, and more energy and enthusiasm for change. This explains why working in a close relationship and with common interest with the leaders, these teachers were able to test and implement innovation in their own institutions. Not only for themselves but for the benefit of other teachers and educators as well as all four have been multiplying the effects of the training both implicit by the programme and also on their own.

If an organization is structured to enable emergent, bottom-up change, Beer *et al.* (2000) argue that the leadership task of the senior management is to facilitate the emerging changes: making successful "pockets" visible to the whole organization and providing resources for local change agents. To the understanding of the researcher these type of "pockets" can be the trust placed on the teachers in systems where there is less autonomy for the teachers to implement innovation than in Finnish education system. I would argue that school leaders can be the providers of these "pockets" so that the teachers can implement change actions in their own schools. Since I had the privilege to do a short interview with Dr. Pasi Sahlberg in Mexico City on March 22, 2018 in an event where he was invited as the keynote speaker. I wanted to know what were his thoughts about the role of a school principal or a school leader when introducing innovative methods or school reform? This was what he shared with me.

"The role of a school principal or a leader is central of course, and becomes even more important when talking about such development where collaboration and co-operation are seen as key elements. Things do not happen on their own; this is where the leadership steps in. If you think of a school as a place where we follow regulations and guidelines made by others, then any kind of control system is sufficient, but if the school is considered a place to promote the organic growth of the school, then it needs leadership and its role is quite central." (interview held in Finnish- translation)
-Pasi Sahlberg-

As Sahlberg suggests education should be more than just a place where we follow regulations and guidelines made by other. The results of this study also suggest that evolving the whole school network the implementation of innovative methods in educational institutions can not only happen but also be very satisfactory and rewarding to the change agents.

"Change can happen without convergence with top-down leaders and efforts, but broad diffusion and sustainability is more likely to happen when convergence occurs. For successful diffusion, leaders must use careful strategies and navigate obstacles." (Kezar & Lester 2011, 229). In this study especially the Portuguese teachers mentioned quite a few time how the change was a strategically planned action from top down. To the understanding of the researcher, this could explain why the changes seem to be happening at a faster pace in Portugal than in Brazil. Strategy requires prior planning of the actions to take and allocation of resources to these actions.

The results of this study are in resonance with the earlier mentioned findings about bottom-up leadership. At the light of the data and to the understanding of the researcher, the change requires deep involvement from both parties, teachers and leaders, and one cannot work without the other. The result from the interview data that rose above other was the fact that the change is a result of the network effort. Study shows that support from the leaders and authorities is a key aspect to go further, multiply and take the change outside the classrooms.

This study suggests that teacher led change process is possible if the need for change has been identified from top-down and the actions are made bottom-up from the grassroots level. Key finding of this study to action change in local context could be listed as follow:

NUMEROUS AND MOTIVATED LEARNING COMMUNITY SUPPORTED FROM THE TOP DOWN

TRUST = SUCCESSFUL IMPLEMENTATION OF EDUCATIONAL INNOVATION AND NEW METHODOLOGIES

LOOK YOUR OWN EDUCATION CONTEXT WITH DIFFERENT AND COMPARATIVE LENSES

ENOUGH TIME FOR REFLECTION

BEING AWAY FROM DAILY OBLIGATIONS --> FULL DEDICATION TO CHANGE ACTIONS IS CRUCIAL

LEARN FROM GOOD EXAMPLES AND ADAPT TO LOCAL CONTEXT

START IMMEDIATELY WITH PILOTS

NEED FOR CHANGE HAS BEEN IDENTIFIED FROM TOP-DOWN AND THE ACTION ARE MADE BOTTOM-UP FROM THE GRASSROOTS LEVEL

LARGER SCALE CHANGE HAS TO BE TAKEN TO A NETWORK LEVEL

5   CONCLUSIONS

Conclusion part will use the axial coding findings and selective code "Inspired teachers acting as change agents in their own context, leading educational change with the support from the top leaders and in cooperation with a supportive network" as a central theme to discuss the paradigm under study.

5.1   Teacher autonomy and decision-making

The Finnish Innovation Fund Sitra (2015) states in their publication A Land of People who Love to Learn; if the working methods of teachers will not change, neither will education. An independent, motivated and highly educated teacher is the hero of Pisa-Finland. Finnish teachers have great autonomy and decision-making power over what and how to teach. Some teachers have a passion for learning. They are not afraid of developing the ways of teaching and learning. But the autonomy of teachers also makes it possible to close the classroom door and pretend that nothing in the world has changed. This leads to huge differences between schools and classes. Some teachers make use of technology, try out new assessment practices and remove desks from the classroom. Others stick with the old way of doing things. When the interviewed teachers talk about *empowerment, autonomy* and *credential* it could be considered the results of the training process in Finland and leading to more autonomous approach and decision-making. Lack of initial teacher preparation in both countries was evident since the data revealed that all four had no formal preparation to become teachers. This under the Finnish perspective is something impossible, since the requirements for a permanent teaching position at all levels require a teacher qualification. Study suggest that teachers require this initial preparation to be able to understand different type of learners and to acquire tools and methods for their demanding work as well as the support for the responsibility of the students learning processes. Rotating and repeating might not be the best approach.

The freedom of choosing what works for you as a teachers and for your students is up to each individual. Finland is also struggling how to respond to the demand

to digitalize and keep up with the advances of technology in classes and in special how to update the knowledge of the in-service teachers. Continuous teacher training is needed for the teachers to keep them well-prepared for the challenges of today´s classrooms. "Finland spends 30 times more funds on the professional learning and development of educators than on accountability procedures, including testing students and surveying schools" (Sahlberg 2018, 53). The data in this study shows how providing the teachers with tools and methods as well as with the sufficient autonomy to make decisions about their classroom practices has brought new and innovative methods into more traditional systems both in Brazil and in Portugal. What still seems to be a challenge was the time given to the teachers to actually prepare their teaching sessions since only the actual teaching hours count as working hours, which could be up to 40 or 60 hours of classroom teaching per week. Those teachers that had a research profile in their institutions seemed to have more flexibility in the use of their working hours and consequently had more time to develop and plan their own teaching.

"The operating culture of educational institutions is still often based on a hierarchical model in which learners are below teachers and teachers are below the head teacher. This needs to change. In the future, teachers will be more like coaches, tasked with helping each learner find their own path." (Sitra, 2015, 7). Research and practical experience suggest that professional development focused on continual improvement of teaching is more effective than imitation of best practices. The "best practice" culture tends to search for and celebrate outlier teachers. But better teaching doesn't come from imitating what star teachers do. Better teaching is built by steady, relentless, continual improvement— one lesson and one unit at a time. (Bradley 2015, 48-53). What all these teachers under study have done is precisely this. They have been developing their own personalized methods that work with their students. It is rewarding to see how thankful the teachers that have undergone some in-service training in Finland are and how it has changed their perception of their work and students. New practices have also spread around the local learning communities rapidly as more and more teachers want to understand what these teachers are doing differently and why the students talk about their classes.

The programme that the interviewed teachers took part modern coaching meth-ods were an essential part of the trainings. Liisa Heinonen, one of TAMK Proa-katemia coaches writes: "Lecturing allows the student to be passive and wait for the teacher to give the right answers or a book to study them from. Students being coached are forced to be active in all parts of the process. The biggest difference between students that have been lectured to and students that have been coached is manifested when they are put into a spot where they don't know what the goal is or how to get there. The lecture-students are used to getting outside guidance whereas the coaches understand that not knowing is the starting place of the learning process." (Heinonen in Saraketo et al 2017, 47). Becoming a fa-cilitator of learning, a coach, has been a huge difference to all four teachers. Some of them described it as a *"weight lifted from my shoulders".* This interview revealed that the teachers perceived their new role as facilitator of learning in-stead of just passing the knowledge.

Fullan & Knight (2011) talk about a system that is heavily laden with accountabil-ity-driven reforms, and how it's difficult for an effective education system to evolve. Schools need less blatant accountability and testing and more capacity building, team learning, learning across schools, and transparency of results and pedagogical practice—the very things that coaches are good at, they continue. They also need more pedagogically driven technology and deep learning around the higher-order skills of advanced literacy, collaboration, and citizenship. School improvement will fail if the work of coaches remains at the one-tone level. Coaches are system leaders. They need development as change agents at both the instructional level and the level of organizational and system change. It's time to recast their role as integral to whole-system reform.

To the understanding of the researcher the teacher autonomy, pedagogical skills, coaching approach and change agency go hand in hand with change actions. It has been important for the interview persons to understand the pedagogical ap-proaches, to understand their new role in the institutions and to be able to take decisions that have pedagogical evidence.

Changes in practice are being implemented in both countries after the training processes in Finland with promising outcomes both from educators as well as

from student perspective. These change agents are studying the impact of the change in their own context and other teachers are being trained by them and following their steps. The interest from other teachers and states towards their achievements was describe as the *"good gossip"* by one of the interviewees. *Good gossip. Yeah it's not a bad gossip. It's all about mouth to mouth communication.* The good news and excitement about the success is contagious and people do want to know what is happening and why all the good feedback from students and the community.

5.2   Power of network

"The work of teachers should be done in teams, co-teaching and joining forces to study new phenomena" (Sitra 2015, 7). Fullan & Rincón-Gallardo (2016) who have studied networks conclude: Networks are a set of people or organizations and the direct and indirect connections that exist among them, whereas collaboration is the act of working together with a common purpose. Effective collaboration in networks requires and triggers significant shifts in the mindsets and practices of educators and educational institutions and system leaders. Effective collaboration requires a common vision that captures the hearts, minds, and hands of network actors. Effective networks connect this vision with a common goal that is at the same time inspiring and measurable. (Fullan & Rincón-Gallardo, 2016). One of the key findings in this study was that all four agree that the way to build a trustworthy network between the teachers requires spending time away from ones daily activities. If we think about the time that these four have spent with their colleagues in Finland, separated from normal work and families, living close to each other, and being dedicated to the common goals of change, it is understandable that the good results accompany.

A focus on substantially improving teaching and learning to develop deeper student learning and engagement (quality) and to reduce variability in performance (equity) provides the best vehicle to collaborate effectively in schools as well as between and across education systems. The most effective networks do not only get better at improving their internal work, but also at identifying and strategizing to continuously change the systems and structures that maintain the status quo

and constrain their improvement work. In this way, effective networks serve simultaneously as powerful vehicles to develop professional capital and as collective agents of change of educational systems. (Fullan & Rincón-Gallardo, 2016). The study data supports the findings of Fullan and Rincón-Gallardo about effective networks as all four interviewees name the support from the network as important if not the most important aspect to be able to make changes and to keep on learning.

5.3   Self-leadership & Leadership

Leadership skill in the knowledge network is the ability to influence others to work towards the realization of a concept or idea. Such leadership skill will not necessarily depend on position, charisma or brilliant interpersonal skills. (McCrimmon,1995, 5). Schools that support a sense of competence, autonomy and collegiality among teachers tend to have teachers who are motivated to make drastic changes to their traditional teaching approaches. It takes much motivation from the teachers to make drastic changes to the teaching approaches to which they have been accustomed for years. (Lam, Cheng, & Choy 2010, 494). Teachers as change agents might be assessed as being open to experience because they have an inner drive to change education and (dare to) experiment with new teaching methods in their classroom (van der Heijden, Beijaard, Geldens et al 2018, 350). The training received in Finland has changed the role of these four teachers. They are role models, leaders and change agents in their own context. Leading the change from the middle by example and actions. Taking the change further by multiplying what they have learned and using the network that includes leaders, decision makers and colleagues as support structure.

Examining leadership practices within the further education sector they showed that despite considerable attention and advocacy for a distributed approach to leadership - an approach that at face value resonated with espoused values within the educational context - there was a desire for what Collinson and Collinson (2009) described as blended leadership: followers sought both certainty of unambiguous top-down direction and vision linked with participative, collaborative

and networked local activity. Teachers as change agents are career-long learn-ers, without which they would not be able to stimulate students to be continuous learners (Fullan, 1993). In a new system that enables and is reinforced through effective collaboration in networks, learning is placed at the center of the educa-tion endeavor, and evidence of improved learning takes precedence over any claims of non-compliance. In a learning-oriented system, lead learning, or creat-ing the conditions for all to learn while learning alongside them about what works and what does not is the new role of leaders across the educational system, re-gardless of their formal role within a hierarchy. (Fullan & Rincón-Gallardo, 2016, 18). This particular case show that it is possible to involve and merge bottom-up leaders with those in power. Teachers with the power to change things work as action force of the change when leaders place enough trust on those key change agent teachers.

Leadership from the middle with its deliberate learning stance, its ongoing lateral connections, and its partnered links upward and downward may be the most pow-erful approach of all times in achieving greater system coherence and sustainable improvement and innovation. It requires a process with essential components that are tested against success, and strengthened through learning from suc-cesses and failures. (Fullan & Rincón-Gallardo 2016, 19). Piloting projects in their own schools and institutions seemed to be a success and rewarding for both teachers and the students. Without these pilots the adaptation process to local context will not happen.

In general, politicians don´t trust educators. As a consequence, there is a lack of public trust in teachers who, in turn, don´t trust their students. This is a vicious circle of distrust in today's education. Experience suggest that trust in people and in institutions can be build only by genuine deeds that give them more responsi-bility and agency. In Finland trust in schools and education in general began to nourish soon after the government allowed schools to design their own curricula (steered by national framework curriculum), to evaluate their effectiveness of their own work, to control their budgets and to professionalize the middle-level leader-ship. (Sahlberg 2018, 44-45). This is something that other nations like Brazil and Portugal can learn and take away from Finland with the help of those trained

change agents that can adapt concepts and ideas and want to take responsibility of the change actions in their local context.

The pressure from top-down accountability has removed much of the incentives for teachers to share responsibility to improve anything besides their own students´ growth. The difference between high-performing international systems in countries such as Finland, Canada, Estonia, and Singapore where deliberate efforts and investments are made to carve out time for teacher collaboration. (Sahlberg, Hasak & Rodrigues 2017, 121). All four seemed to have found plenty of joy and benefits from the newly found cooperation possibilities with other teachers after their training in Finland.

Instead of pushing change all the time, we need to be pulling change, which means drawing people in to what interests them and challenging them through leadership. Core ingredients in pulling change, as found in good examples from Canada, Finland and Queensland, Australia, are: collective responsibility, testing a bit but not too much and trust (Hargreaves & Fullan 2012). Teacher leadership is site-based and ongoing and has as its goal to lead professional development work, ultimately enhancing the practice of other teacher colleagues (Conway & Andrews, 2015; Poekert, 2012). This study clearly demonstrates that all the interviewed participant have been pulling the change in their own context with great results and involving their teacher colleagues in the same change practices.

Pasi Sahlberg wisely writes in his book called FinneshED Leadership that principals should be the leading learners at their schools by engaging teachers in an ongoing dialogue regarding school reform and learning together with them what works in other countries´ education systems as well as finding international networks of schools or teachers that act in your area of interest. (Sahlberg 2018, 81).

5.4 Practical conclusions

Findings suggest that teachers act as change agents in their own educational context especially if they are surrounded by a numerous and motivated learning community, and supported from the top down. Trust is one of the key elements

for a successful implementation of educational innovation and new methodologies. On individual basis all four wanted to make a difference in their own educational context and agree that it is possible also as an individual if you have the sufficient motivation and acquire the tools and methods to do so. What happens with this approach is that it will not take the change too far from your own workspace, small classroom actions and the students that you have contact with daily. We would talk about personal change that would give the experience to some students. There is nothing wrong with that, but if we want a larger scale change this has to be taken to a network level and it will spread around the whole school or university and little by little to the whole surrounding community. Change agency is like a "snowball effect", once the small snowball starts rolling it gets bigger and bigger as it catches more and more snow on its way, increasing in size and creating something of importance at a faster and faster rate.

This study supports the statement that in-service teacher trainings with a Finnish partner helped process of change in educational context. Looking at your own education context with different and comparative lenses and being given sufficient time to do so, enabled the teachers to adapt and take advantage of the good practices of proven educational successes, like Finland has. Copy and paste does not work in education context. Contextualization and adaptation of an education system like Finland helps to benchmark what has been done in Finland to achieve high-performing system with its complexity and learn from the example and also from the errors. "Most leading ideas and innovations in education are already in use somewhere. The education leader´s task is to find them, learn them, and put them into practice if there is reason to believe they will work" (Sahlberg 2018, 87).

The study also reveals that preparing the teachers outside their own context makes a huge difference to make these changes at a grassroots' level, in classrooms, where everything starts. Being away from the daily lives and obligations in their own home countries, and to be fully dedicated to prepare these change actions and receive proper coaching, tools and methods was crucial and important part of the training to be able to start the change and create a solid network to work with back home. "Time for reflection on changes is a crucial factor for embedding and sustaining developments" (Harlen & Hayward, 2010).

Governments have become less and less effective at leading system change. The old model – prioritize and implement – is no longer suitable. It cannot generate innovation and learning fast enough for the demands of the 21st century. For the latter you need continuous innovation in real time generated and assessed through co-learning (laterally within and across classrooms, schools and districts; and hierarchically school to district to province). For this kind of innovation, the middle is essential. Leadership from the Middle can be briefly defined as: a deliberate strategy that increases the capacity and internal coherence of the middle as it becomes a more effective partner upward to the state and downward to its schools and communities, in pursuit of greater system performance. (Fullan 2015). To the understanding of the researcher if decision making is taken too far from the classroom and school level it will kill the real-time innovation that has been happening in both of the cases under study. If the bottom-up leadership works like it seems to work for the interviewed teachers, the results spread to all levels of school and community. Students are happy, teachers work is more pleasant and rewarding and the leaders and the community get to enjoy the good result and experience the shared leadership benefits.

Trust is the word that could be used to describe best the relationship between the teachers and those that possess authority and leadership positions in the context of both interviewed countries. The need for change has been identified from top-down and the actions are made bottom-up from the grassroots level. In both cases in Brazil and in Portugal, the initiative to change was taken at a leadership level, but the task was placed at the teachers. What was remarkable in both cases under study was the actions taken from the leaders to provide these teachers with the training to acquire tools, giving them sufficient time to learn and adapt, leave them space to implement and test and provide them with continuous help and support.

Visual presentation of the methods and key findings of this study are presented in form of an infographic. This can be found attached to this study as an appendix.

5.5 Critical evaluation of the study design and implementation

The process of grounded theory is laborious and requires sufficient time to go back and forth with the existing data and to "play around" with the memos. The feeling of not proceeding, being stuck, with the study at times required some space in between and going back to reading about the method itself and reorganizing your thoughts and data. Couple of "eureka", a cry of joy moments were finally coming up with the axial coding (presented in the study) and the last version of the memos (included in the study) in a more organized way since the working memos were actual post it papers in a huge A2 canvas.

The challenge in grounded theory is coming up with the emergent categories instead the preconceived ones. Willingness to work with open mind and reading widely around and also outside the educational field helps and let only the data to lead the emergent theories. Of course, the possibility of seeing the data through certain and pre-conceived lenses exists especially working in the field. This can be seen either as an advantage and as an disadvantage as the prior knowledge in the field can help the researcher to understand the phenomenon under study and acknowledge the role of the researcher as an instrument, which I personally believe is beneficial, as described by Charmaz (2000) as constructivist approach of grounded theory. On the other hand, some grounded theory lines see that it might lead to pre-existing theoretical ideas and assumptions.

5.6 Further study ideas

The rather encouraging findings of the teacher led change processes both in Brazil and in Portugal suggest that a larger scale study about the Finnish teacher education training impact on the local context could bring up more interesting information. This type of study could provide the Finnish education providers that work in a global context important and needed facts of the concepts in use and possibly to take their services even further. In the case of Brazil, where TAMK has experience training teachers from Federal Institutes of Brazil since 2014 it would be important to understand the scope of the effects of the trainings as the results in the educational field do not happen in a short period of time.

In a follow-up study on teachers as change agents, it would be particularly important and interesting to involve students that have been the end receivers of the benefits of these trained teachers and their skills. How do they perceive the change in the classrooms?

Further study on bottom-up leadership in educational context comparing different countries could give important information to understand when and why it works and what are the main obstacles to bottom-up leadership.

Fourth area as a further study could be the policy level effects of the Finnish intervention in the teacher training in Brazil as many of the trained teachers have accepted important position in the ministries as well as at state level posterior to their training in Finland.

REFERENCES

Adams Becker, S., Cummins, M., Davis, A., Freeman, A., Hall Giesinger, C., and Ananthanarayanan, V. 2017. NMC Horizon Report: 2017 Higher Education Edition. Austin, Texas: The New Media Consortium.

Astin, H. S., & Leland, C. 1991. Women of influence, women of vision. San Francisco, CA: Jossey-Bass.

Ball, S. J. 1998. Big Policies/Small World: An introduction to international perspectives in education policy, Comparative Education, 34:2, 119-130.

Bangs, J. & David, F. 2015. Non-Positional Leadership. In J. Evers & R. Kneyber, Flip the System: Changing Education from the Ground Up. Abingdon, UK: Routledge.

Bates, A.W. 2015. [Teaching in a Digital Age: Guidelines for Designing Teaching and Learning](#) Vancouver BC: Tony Bates Associates Ltd. ISBN: 978-0-9952692-0-0.

Beer, M. and Nohria, N. 2000. "Cracking the code of change", Harvard Business Review, June-July, p. 133-141.

Bradley, E. & Hiebert, J. & Gallimore, R. 2015. "Best Practice"--The Enemy of Better Teaching. Educational Leadership. 72. 48-53.

Böhm, A. 2004. Theoretical Coding: Text Analysis in Grounded Theory. In U. Flick, E. Kardorff & I. Steinge (Eds.), A Companion to Qualitative Research. p. 207-2015. London: SAGE Publications.

Cameron, E. & Green, M. 2012. Making sense of change management: A complete guide to the models, tools and techniques of organizational change (3rd ed.). London ; Philadelphia: Kogan Page.

Cohen, L., Manion, L. and Morrison, K. 2011. Research Methods in Education. 6th ed. New York: Routledge

Collinson, D. and Collinson, M. 2009, "Blended leadership': employee perspectives on effective leadership in the UK further education sector", Leadership, Vol. 5 No. 3, p. 365-380

Conway, J. M., & Andrews, D. 2015. A school wide approach to leading pedagogical enhancement: An Australian perspective. Journal of Educational Change, *17* (1), 115-139. doi:10.1007/s10833-015-9258-0

Corbin, J. and Strauss, A.1990. Grounded Theory Research: Procedures, Canons and Evaluative Criteria. Zeitschrift für Soziologie, Jg. 19, Heft 6, December 1990, p 418-427. Stuttgart: F. Enke Verklag Stuttgart.

Creswell, J. W. 2008. Educational research: Planning, conducting, and evaluating quantitative and qualitative research (3rd ed.). Upper Saddle River: Pearson.

Doppenberg, J. J., den Brok, P. J., & Bakx, A. W. E. A. 2013. Relationships between primary school teachers' perceived learning outcomes of collaboration, foci and learning activities. Learning and Individual Differences, 28, 1–8.

Doucet, A., Evers, J., Guerra, E., Lopez, N., Soskil, M., 2018. Teaching in the Fourth Industrial Revolution: Standing at the Precipice. Abingdon, Oxon ; New York, NY : Routledge

Doyle, W. 2017. Action Plan Report for Global Education Brand Finland. Ministry of Education and Culture. http://minedu.fi/documents/1410845/4150027/Action+Plan+For+Global+Education+Brand+Finland/765e3118-475e-486e-a023-c4f88ae289f3

Easton, L. B. 2008. Teaching: a Developing Profession. Phi Delta Kappa Journal. Volume 89, June, p. 759.

Ezzy, D. 2002. Qualitative Analysis: Practice and Innovation. London: Routledge.

Flick, U. 1998. An Introduction to Qualitative Research. London: Sage.

Fullan, M. & Knight, J. 2011. Coaches as System Leaders. Source: Educational Leadership Date: October 1, 2011

Fullan, M. 2015. Leadership from the Middle: A System Strategy. Education Canada. Dec 2015. Canadian Education Association

Fullan, M.1993. The Professional Teacher- Why Teachers Must Become Change Agents. Educational Leadership Journal. Vol 50. Issue 6. Retrieved 7.1.2019

Fullan, M. G.1998. The meaning of educational change. In A. Hargreaves, A. Lieberman, M.

Fullan, M. G. 2001. The new meaning of educational change (3rd ed.). New York, NY: Teachers College Press.

Gerrish, K., & Lacey, A. 2010. The research process in nursing. Retrieved from https://ebookcentral.proquest.com

Glaser, B. and Strauss, A.1967. The Discovery of Grounded Theory: Strategies for Qualitative Research. New York: Aldine de Gruyter

Graham, B.1986. The Teacher as Change Agent, British Journal of In-Service Education, 12:3, 151-158

Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. 2006. Burnout and work engagement among teachers. Journal of School Psychology, 43, 495–513.

Hargreaves, A., & Fullan, M. 2012. Professional Capital: Transforming Teaching in Every School. New York: Teachers College Press.

Harlen, W., & Hayward, L. 2010. Embedding and sustaining developments in teacher assessment. In J. Gardner, W. Harlen, L. Hayward, & G. Stobart (Eds.), Developing Teacher Assessment (pp. 155-171). Maidenhead: McGraw-Hill.

Hart, J. 2005. Activism among feminist academics: Professionalized activism and activists professionals. Advancing Women in Leadership, http://advaning women/com/awl/social_justice1/Hart.html

Hattie, J. 2012. Visible learning for teachers. Maximizing impact on learning. New York, NY: Routledge.

IFB Intranet. Professores do IFB participam do Programa Brasileiros Formando Formadores (BraFF). Published 17.12.2018. Retrieved 27.12.2018. www.ifb.edu.br/reitori/19486-professores-do-ifb-participam-do-programa-bra-sileiros-formando-formadores-braff

Kezar, A., & Lester, J. 2011. Enhancing campus capacity for leadership: an examination of grassroots leaders in higher education. Retrieved from https://ebookcentral.proquest.com

Kezar, A. 2012. Bottom-Up/Top-Down Leadership: Contradiction or Hidden Phenomenon. The Journal of Higher Education 83(5), 725-760. The Ohio State University Press.

Kezar, A., Carducci, R., & Contreras McGavin, M. 2006. Rethinking the "L" word in higher education: The revolution on research in leadership. San Francisco, CA: Jossey-Bass.

Lam, S., Cheng, R., & Choy, H. C. 2010. School support and teacher motivation to implement project-based learning. Learning & Instruction, 20, 487–497.

Lukacs, K. S. 2012. Exploring 'the ripple in the pond'—A correlational study of the relationships between demographic variables and the Teacher Change Agent Scale. Current Issues in Education, 15(2), 1–12. Retrieved from http://cie.asu.edu/ojs/index.php/cieatasu/article/view/956.

Lukacs, K. S., & Galluzzo, G. R. 2014. Beyond empty vessels and bridges: Toward defining teachers as the agents of school change. Teacher Development: An International Journal of Teachers' Professional Development, 18(1), 100–106.

Meirink, J. A., Imants, J., Meijer, P. C., & Verloop, N. 2010. Teacher learning and collaboration in innovative teams. Cambridge Journal of Education, 40(2), 161–181.

McCrimmon, M. 1995. "Bottom-up leadership", Executive Development, Vol. 8 Issue: 5, pp.6-12, https://doi.org.elib.tamk.fi/10.1108/09533239510093215

Niemi, H. 2009. Why from Teaching to Learning? European Educational Research Journal, 8 (1), 1–17.

Pearce, C., & Conger, J. 2003. Shared leadership. Thousand Oaks, CA: Sage Publications.

Rincón-Gallardo, S. Fullan, M. 2016. Essential features of effective networks in education. Journal of Professional Capital and Community; Bingley. Vol. 1, Iss. 1. 5-22.DOI:10.1108/JPCC-09-2015-0007

Robson, C. & McCartan, K. 2017. Real World Research, 4th Edition.

Robson, C. 2002. Real world research: A resource for social scientists and practitioner-researchers. Oxford, UK: Blackwell Publishers.

Safarik, L. 2003. Feminist transformation in higher education: Discipline, structure, and institution. The Review of Higher Education, 26(4), 419–445.

Saraketo, H. & Nevalainen, T. (editors). 2017. Theories and Experiences on Team Learning. Tampere University of Applied Science. e-book. retrieved from http://julkaisut.tamk.fi/PDF-tiedostot-web/B/90-Theories-and-experiences-on-team-learning-Academic-adventures-in-Proakatemia.pdf

Sahlberg, P. 2011. Lessons from Finland. Education Digest, 77(3), 18–24.

Sahlberg, P. 2013. Teachers as Leaders in Finland. Educational Leadership. Oct 2013, Vol. 71 Issue 2, p36-40. 5p

Sahlberg, P., Hasak, J., Rodrigues, V. & associates. 2017. Hard Questions on Global Educational Change. Policies, Practices and the Future of Education. Teachers College Press. Columbia University. New York.

Sahlberg, P. 2018. FinnishED Leadership. Four Big, Inexpensive Ideas to Transform Education. Corvin: A Sage Publishing Company.

Sahlberg, P. PhD. 2018 Interview during a seminar "Finnish Lessons for Mexico" 22.3.2018. Interview and transl. Heinonen, V. Mexico D.F., Mexico.

Shin, Y.I. & Kim, H.S. 2003. American Heart Journal, *146*(1), A7. https://doi.org/10.1016/S0002-8703(03)00469-1

Sitra. 2015. A new education forum. A land of people who love to learn. p.7. Erveko Oy; Helsinki

Spillane, J. P., Halverson, R., & Diamond, J. B. 2003. Towards a theory of leadership practice: A distributed perspective. Journal of Curriculum Studies, 65(2), 775–790.

TAMK Offer (confidential). Retrieved 27.12.2018

TAMK webpage. Retrieved 27.12.2018. www.tamk.fi/web/tamken/global/vet-teachers.

Thoonen, E. E. J., Sleegers, P. J. C., Oort, F. J., Peetsma, T. T. D., & Geijsel, F. P. 2011. How to improve teaching practices: The role of teacher motivation, organizational factors, and leadership practices. Educational Administration Quarterly, 47(3), p. 520-521 & p. 496-536.

Tulevaisuusvaliokunta (Finnish Parliamentary Committee for the Future) publication. Koulutusvienti kartalle. 2016. Fountain Park Oy.

van der Heijden, H.R.M.A., Beijaard, D., Geldens, J.J.M. et al. J Educational Change. 2018. 19: 347. https://doi.org/10.1007/s10833-018-9320-9

Vandeyar, S. 2017.The Teachers as an Agent of Meaningful Educational Change. Educational Sciences: *Theory & Practice.* Apr2017, Vol. 17 Issue 2, p373-393. 21p

APPENDICES

Appendix 1.Infographic of the key aspects and findings of the study.