Leading Everyday Complexity

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ABSTRACT

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People around the globe perceive that the world around us is becoming more and more complex all the time. It has become a mantra, which we hear all the time and everywhere. What does it really mean, and what can we do about it, other than just keep repeating it everywhere? There might be a risk that we are using complexity as a general explanation to almost everything, with a supposition that it is all beyond our power. If we don´t understand the essence of what we are dealing with, it is much more difficult to nourish creativity and confidence which would help us to cope with it. Could we learn to bear with complexity as an everyday normal condition, to which we have power over?

This qualitative case study tries to understand the complexity and complexity leadership in Savonlinnan Taidelukio, a senior secondary school with a special emphasis on music or visual arts. The purpose of the study is to find out, mainly by interviewing teachers, how the participants understand and experience the complexity and what kind of leadership practices do they find supportive to cope with complexity in their daily working lives. These interview results are compared with four (4) theoretical aspects from complexity and transformational leadership with an aim to build a better understanding of the phenomenon and to find possible connections between the practie and the theories.

Keywords: attributional complexity, cognitive complex ability, complex adaptive system, complexity, complexity leadership, enabling adaptive space, transformational leadership, senior high school, Savonlinnan Taidelukio

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1   INTRODUCTION

My personal interest in the phenomenon has risen from what I experience around me in working life, in student life, and even in people´s personal lives. It seems to me that everybody is in a constant state of "stressful something" which they shall have to get over with to be able to return to a "normal state". So often, I hear people talking "after we get over this, then..." but the problem seems to be that this "normal state" never comes. Maybe that stems from our world, which is described as being more and more complex all the time. Should we learn to deal with that as an everyday condition and not as an exception? This might require a paradigm change in our thinking, to be able to bear with constant uncertainty and incompleteness.

According to Urry (2006, p. 112) conditions and processes in different aspects are getting more and more complex in time-space, in human relationships, economics, technology, nature, products, networks, etc., and this has created a belief that complexity is somehow self-organizing to penetrate all over the word. Procedures of the contemporary culture and the increasing amount of particles in productions are producing even more complex outcomes, such as increased antibiotic resistance, adjusting viruses like Aids or Ebola, or high technology inventions that are faster and faster overcoming the previous ones (Urry, 2006, p. 112). If we assume that, this same is happening, not only in productions of different types, but also in everyday lives; human relationships, globalisation, mobility, general diversity, or balancing between work and family, it creates a sensation that we have to balance with constant rapid changes. That eventually may cause stress and burnout.

Sweetman (2010, p. 1) suggests that to retain sustainable in complex organisations and environments, it is important to enable creativity and innovative action. Leadership research, which tries to find solutions to these challenges, has grown significantly in past decades (Dinh, J. E., 2014, p. 9) and at the same time, leadership strategies which have been based on top-down leadership are turning much more towards shared strategies. Leadership theories attract researchers

and that has offered a growing and diverse field for them (Dinh, J. E. 2014, p. 9). Complexity leadership theory, as complexity science aims to find and generate systems with an ability to reorganize themselves effectively through time (Urry, J., 2006, p. 114).

Uhl-Bien, M. (2017, p. 14-17) talks about leading for adaptability and divides complexity leadership in three segments: operational, entrepreneurial, and enabling. He also suggests, based on research that these three qualities are all necessary to build and strengthen creativity and innovative thinking. Operational leaders try to minimize the obstacles which are on the way towards innovations, entrepreneurial leaders actively search diverse models and purposely strengthen collaboration, and enabling leaders to operate in between and on this all to nurture, feed, and fuel in diverse ways to unleash all the intelligence for the organization (Uhl-Bien, 2017, p. 14-17). As a conclusion of the research, they came up with a solution to change a complex system to a complex adaptive system, where three segments of leadership are creating a leading model to enable to face complexity with complexity (Uhl-Bien, 2017, p. 19).

Transformational leadership theory has also allocated same kind of ideas by emphasizing positive results of cognitive complexity (Sun, 2012, p. 1001) which, according to research, significantly advances abilities to manage complex environment. Furthermore, Sun (2012, p. 2002) points out that transformational leadership has been noted in the literature as having positive results when it comes to organization´s wellbeing, performance, and effectiveness, and it has been shown to involve greater and more diverse understanding for individuals and their behaviour as well as including stronger values and more sophisticated evaluation of behaviour. A person with more cognitive complex ability analyses from several perspectives taking into consideration many possibilities and understanding deeper reasoning (Sun, 2012, p. 2003), and is also connected with an ability to more complex moral reasoning (Turner et al., 2002, p. 306). When this kind of cognitive complexity is used in social judgement it is understood as attributional complexity, which is considered as important element of transformational leadership (Sun, 2012, p. 1006).

1.1 A case study in Savonlinnan Taidelukio

This case study was conducted in the same school where I, myself work and have worked almost for ten years, as a part-time theatre teacher. I, not only as a researcher but also as a teacher, am an insider in the school and I have a long history in the organization. On the other hand, I have never been one of the permanent full-time teachers. I am representing a person coming from a "different world", theatre. I sometimes feel like an insider, but at other times more or less as an alien. In our school, visual arts or music has emphasis alongside with general studies, and theatre studies are offered as an optional and integrated program.

By interviewing teachers who were willing to participate, I tried to understand how they understand and experience complexity in their everyday working lives and how, or if, the results connect with the theory I reviewed for this thesis. At the same time, I tried to identify leadership practises, which interviewees find and experience helpful and supportive when coping with complexity, and even experiencing this phenomenon as a normal state. If a theory suggests that we should face complexity with complexity (Uhl-Bien, 2017, p. 19), how should we understand that in practise? What kind of connection can be found between the interview results, the leadership theories around Complex Adaptive System and Attributional complexity, and my personal experience in the world of education and leadership? Do we need a paradigm change in our understanding of constant uncertainty and incompleteness?

2   LITERATURE REVIEW

2.1   Complexity in science

According to Urry, J. (2006. p. 112) complexity has been described to have become a terminological phenomenon in sciences, in many fields, and that it has created a belief that complexity is somehow self-organizing to penetrate all over the word. Conditions and processes in different aspects are getting more and more complex in time-space, in human relationships, economics, technology, nature, products, networks etc.

Complexity science aims to find and generate systems with an ability to re-organize themselves affectively through time (Urry, J., 2006, p. 114).

2.1.1   Understanding complexity

According to Uhl-Bien, M. (2007, 2009) and Uhl-Bien and Arena (2017), explaining complexity is not simple at all. Complexity is often compared to complicated and rich interconnectivity, but it is not quite that. Finally, Uhl-Bien (2017) gives an example by comparing jumbo jet and mayonnaise, which makes it much easier to understand, at least in theory. Both of them have many parts, but when you mix the ingredients of mayonnaise, you can´t separate them anymore back to what they were. However, the jumbo jet, no matter how complicated structure it really is, can be disassembled back into its original parts.

Comparing complexity to rich interconnectivity means that if you add the word "rich" in front of interconnectivity, you get close to the meaning: When normal interconnectivity becomes rich, the parts that are connecting, shape and change each other and the whole, in an unexpected manner (Uhl-Bien, 2017). Uhl-Bien (2017) continues how this explains a difference between complexity and complicated, whereas a complicated thing may have numerous intricate parts, but when they are acting, they don´t change each other. Wilson, M. (2009) applies

complexity theory into a social network -thinking, and compares changes between parts and components to the randomness of social relationships and structures.

Urry, J. (2006. p. 112) described how complexity as a phenomenon has created a belief that complexity is somehow self-organizing to penetrate all over the world in diverse aspects, which might support the idea that not much can be done about it. Urry, (2006. p. 112) continues noting that cause and effect of the contemporary culture and the increasing amount of particles in productions, are producing even more complex results, such as increased antibiotic resistance, adjusting viruses like Aids or Ebola, or high technology inventions that are faster and faster overcoming the previous ones.

2.1.2   Perspectives to complexity

To give this phenomenon a different angle, Urry (2006, p. 112) refers to Davis (2000), who talks about the paradox of many nature lovers aiming the preserve such "nature-values", which nature actually itself seems to scatter, "there is no such thing as nature´s balance". Urry (2006, p. 112) continues that it is rather the opposite, where stable and balance is not a normal state. For example, the animal populations might have unexpected losses, depending on the year and countless unpredictable small causes like storms, floods, fires, earthquakes and the population of other species around the globe, "extreme events demonstrate complexity where small changes in driving variables or inputs can produce disproportionate outcomes". From this, one could draw a conclusion, that complexity could be experienced as a normal state instead of an exception which we are trying to overcome, not only in nature but also in organisations and in our lives. This may be a comforting thought, if we think that complexity has not emerged from technology time but has always existed. Compared to the theory that the world is more and more complex all the time, dark medieval times, or even as close as 1950´s peasants who totally dependent on nature in food and shelter, it might raise a question if it is really so? Certainly, the world is very different all the time, components are diverse, and probably the change is faster than before?

Urry (2006. p. 113) brings up an idea, which Einstein presented, that time and space are not independent of each other, but are created by the system, and so depending on, how they are measured:

> When a body moves or a force acts, it affects the curvature of space and time, and in turn the structure of space-time affects the way in which bodies move and forces act.

This is from 20th century Newtonian science, which is preparing towards the complexity era and later on, quantum theory evolves with the idea that behaviour is unpredictable, coincidental and acute, and the processes are much more important than the actual parts involved (Urry, 2006, p. 113).

Urry (2006, p. 113) also describes chaos theory and the possibility of a "controlled chaos" by this meaning that particles are never permanently positioned but always ready to move and adapt, and how tiny alteration can lead to massive evolution in the future. Schneider and Somers, (2006, p. 355) have described that chaos is a necessity to the evolution and development since complex adaptive systems are "most adaptive near the edge of chaos". The difficulty might lie in defining where complexity changes into chaos and is that "truth" same to all parties. Or, if the aim is to lead the whole organisation to "understand the same picture, experiencing it equally together" to maximize innovation and creativity, how is that done?

Complexity science aims to find and generate systems with an ability to re-organize themselves affectively through time (Urry, 2006, p. 114).

2.1.3   Cynefin™ model

One of the sense-making models, which is much used when trying to understand and improve processes, is the model, which Dave Snowden created in 1999 when he worked for IBM global services. The model gives a spectator five different categories to identify systems, those being complex, complicated, chaos, obvious, and imagined unknown (figure 1). Dave Snowden (1999) explains that two of them represent simple systems where certain factors cause predictable outcomes. Those are complicated and obvious. Two others, complex and chaos represent systems where certain factors cause unpredictable outcomes, which as a

state of acting increases the difficulty to react and plan towards improvement. He clarifies that Cynefin™ model, not only helps to divide systems but also recognize them in their early stages to enable improvement.

Figure 1. Cynefin™ model
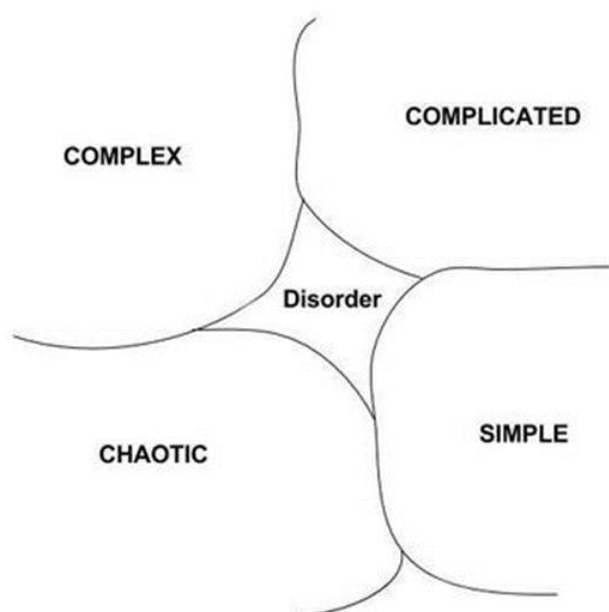
When interpreting Cynefin™ model, Snowden (2005, pp. 24-27) defines that four stages can also be looked in three dimensions, as steps in a round stairway, beginning from obvious which is the highest step. The next one is complicated, then complex, and finally chaos being the lowest one. The distance from a certain step to the next is slight, but between obvious and chaos it is dangerously high. He suggests that being a point on which we should pay particular attention.

2.2   Leading complexity and transformation

According to Dihn (2014) and Morrison (2002) leadership research and organising has grown significantly in past decades and as a discipline, it attracts researchers, and has offered a growing and diverse field for them. This may be

results from a need to find new leadership strategies to replace traditional hierarchical leadership models. The term complexity captures the greater levels of uncertainty, ambiguity, interdependencies and interrelatedness that now characterize the environments in which organizations operate (Clarke, N. (2013). In today´s world, it is important to be dynamic and active and understand the meaning of leadership as a possibility to change the organization´s culture to meet these needs. Duin & Baer (2010) points out the conscious choice to free the power in the organization to all levels and that, it is important to understand that we may need to stop running systems like they were machines. They suggest relying on social networks and connections as an answer to build a complex adaptive system.

According to Crane, B. (2018) the research shows that increasing mental complexity helps adults to learn such skills as sense-making and information processing which again helps individuals become more adaptive and improving in complex systems. He also reminds that, although we have proof of that human capabilities can improve, it is also important to understand that it does not happen without great effort and special understanding how to facilitate these lifelong learning processes.

A review of ten major journals of leadership and management and the articles published brings into sight the numerous leadership theories recognized in the new millennium. Dinh (2014) categorizes leadership research between 2000 and 2012 and from that, codes 23 leadership theory groups. Two of those will be discussing and under focus within this study´s context.

Complexity and systems leadership theories: Articles in this thematic category encompass catastrophe or complexity theory, with the concept of complex adaptive systems (CAS) and encompassed how complexity theory was useful in describing how leaders can be successful in turbulent environments, also including social network and integrative perspectives of leadership. Representative articles in this Dinh´s (2014) category are Avolio, 2007; Balkundi & Kilduff, 2006; Marion & Uhl-Bien, 2002; Schneider & Somers, 2006; Uhl-Bien, Marion, & McKelvey, 2007.

Neo-charismatic theories: These articles discuss transformational and/or charismatic leadership topics, e.g., concepts of charisma, consequences of charismatic leadership. Sometimes the focus is on transformational leadership; at other times, the only focus is charismatic leadership. Frequently both, transformational and charismatic leadership, are mentioned, resulting in a category that combined these two. This thematic category also includes inspirational, Pygmalion effects, visionary, self-sacrificing, and ideological/pragmatic, full-range, and outstanding leadership theories. Representative articles in this Dinh´s (2014) category are Antonakis, Avolio, & Sivasubramaniam, 2003; Bono & Judge, 2004; Judge et al., 2004; Mumford, Antes, Caughron, & Friedrich, 2008.

2.2.1 Complex adaptive system

Mary Uhl-Bien (Ph.D.) is a professor of leadership at the Neely School of Business at Texas Christian University. She is an expert in complexity leadership and active in executive education nationally and internationally. Michael Arena (Ph.D.) is a Chief Talent Officer in General Motors, responsible for example of talent management, talent analytics, and leadership development. Their question is "How can we lead our organizations to be adaptive in the face of order imposed by hierarchical organizing structures?" If the general idea of complex adaptive systems is self-organizing, i.e. they do not have hierarchy and they aren´t managed or planned, is it possible to enable organizations to act as complex adaptive systems even though they have hierarchical structures? (Uhl-Bien & Arena, 2017). Their findings presented that those organizations, which could enable adaptive space were able to operate and adapt in complexity, and inside bureaucratic systems that became an issue of enabling self-organizing and entrepreneurial action and by doing that resist the pull to equilibrium (Uhl-Bien & Arena, 2017).

According to Uhl-Bien and Arena, pressures mainly consist of these four topics: 1) a need for a novel solution 2) new partnership 3) conflicting perspectives, and 4) interdependence. Again, the answer to overcome these is adaptive space, which is not easy in structured organizations, but something we should

aim towards (Uhl-Bien & Arena, 2017). Dividing leadership in three types, which are operational, entrepreneurial, and enabling, they found out that all three are necessary to build and strengthen creativity and innovative thinking (Uhl-Bien & Arena, 2017). Operational leaders try to minimize the obstacles, which prevent innovations, entrepreneurial leaders flexibly find diverse models and purposely strengthen collaboration, and enabling leaders to operate in between, and on this all to nurture, feed and fuel in diverse ways to unleash all the intelligence for the organization (Uhl-Bien & Arena, 2017). They suggest that enabling leadership skills and practices of these three types are together the core of complex thinking that finally enables well-functioning complex adaptive system.

> "Being an extraordinary enabling leader requires a combination of deep conviction and humility. Enabling leaders must be convicted enough in what they are doing to take great risks in opening up adaptive space for others, and humble enough to step back so others can step forward." (Uhl-Bien & Arena, 2017, p. 18)

As a conclusion of their research, they come up with a solution to change a complex system to a complex adaptive system, where three ways of leadership are together creating a leading model, which enables to face complexity with complexity (Uhl-Bien, 2017, p. 19). Geer-Frazier, B. (2014) presents in her/his article a list of qualities of a leader who is capable to understand the need to change and is willing to take suggestions towards it. The list was created in the panel at IBM:

1. avoiding individual biases

2. not giving into individual biases or limited knowledge

3. thinking beyond the limited knowledge

4. use the collective intelligence of the group

5. no one person is in control

6. empowering people to get around biases

To investigate leadership formulas that aim to handle complexity Nooteboom, S. G. (2013, p. 28-30) has defined strategies (table A) whose content rises from previous research. Strategies are here recognized either belonging to a. adaptive leadership or b. enabling leadership (Nooteboom, S. G., 2013, p. 28-30)

while Sweetman, D. (2010) suggests that core leadership formulas include administrative and adaptive functions.

TABLE 1 (Nooteboom, S. G., 2013, p. 28-30)

Strategies of adaptive leadership	Strategies of enabling leadership
MS Organizing minimal structures	RR Reflection on cross-organizational relationships
CO Connecting	PR Investing in personal trust-based relationships
IM Improvising	SR Sharing and providing resources
KY Keying	CT Creating transparency
SM Sense making	IN Integrating

Keith Morrison (2002) explains in detail the complexity theory in school leadership and the history of it. He looks for differences between conventional wisdom and complexity theory and points out interestingly clear sights in them (Morrison, 2002, s. 9).

TABLE 2 (Morrison, 2002, p. 9)

Conventional wisdom	Complexity theory
Small changes produce small effects	Small changes can produce huge effects
Effects are straightforward functions	Effects are not straightforward functions
Certainty and closure are possible	Uncertainty and openness prevail
Similar initial conditions produce similar outcomes	Similar initial conditions produce dissimilar outcomes
The universe is regular, uniform, controllable and predictable	The universe is irregular, diverse, uncontrollable and unpredictable
Systems are deterministic, linear and stable	Systems are indeterministic, nonlinear and unstable

Systems are fixed and finite	Systems evolve, emerge and are infinite
Universal, all-encompassing theories can account for phenomena	Local, situationally specific theories account for phenomena
A system can be understood by analysing its component elements (fragmentation and atomization)	A system can only be understood holistically, by examining its relationship to its environments (however defined)
Change is reversible	Change is irreversible - there is a unidirectional arrow or time

2.2.2 Enabling adaptive space

If we assume that adaptive space is necessary to release and nourish creativity and build a complex adaptive system, we should more closely understand what is meant by it. Uhl-Bien and Arena (2018) have defined adaptive and enabling adaptive space through leadership practices in their articles. They named four ways how leaders could build and enable adaptive space.

1. Conflicting: Engaging tension, conflicting, bringing in new and diverse theories, and enabling diversely time and space (physical, virtual, meetings) for debate and discussion, and all the time being aware and regulate, not from the top but from "backstage", the degree of tension; if it is too low, it does not spark enough, or if it is too high/hot, it will overwhelm the system. For all this to work, the system needs to build safe climate with strong trust and openness, as well as comfortable risk-taking.

Figure 2. Levels of conflicting. (Uhl-Bien & Arena, 2018, p. 97)
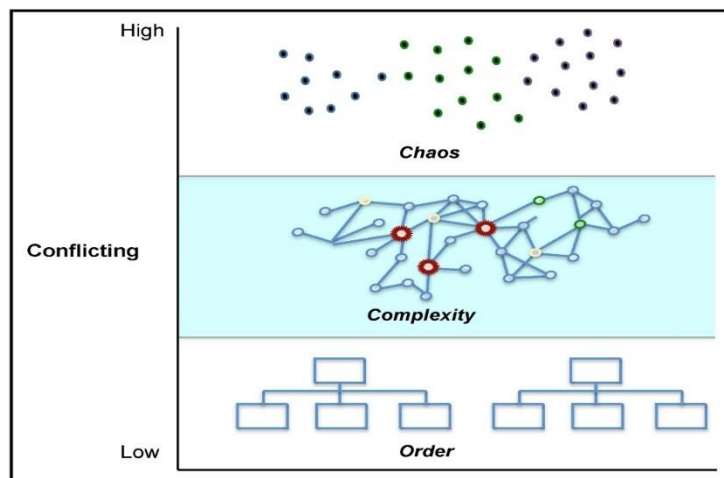
2. Connecting: Building rich interconnectivity between agents (ideas, people, resources, systems), using all possible technology and social connections to make it possible, this relates to conflicting, since creative conflicting needs connections. Conflicting without agents can be destructive.

3. Research implications: Recognizing the need to understand leadership at all levels, following research, and being part of it, contingency models are found to work better. Research is much needed to educate leaders and help us understand how and in what levels leaders operate.

4. Practice implications: Awareness of the fact that leadership which builds an adaptive system often looks very different from traditional, recognizing new kinds of ways which work towards adaptability, suiting this knowledge also to reward system. For senior leaders, this is a real possibility to change and learn new. Those who like creativity and innovation, and who are not afraid of tension, uncertaint, and conflicting, have more tools to embrace all this into practice.

2.2.3 Attributional complexity

Peter Sun (2012) examines whether transformational leaders, who emphasize the importance of attributional complexity, are also by others considered as transformational. He presents four hypotheses, which all suggest that attributional complexity is positively associated with components of transformational leadership.

He implemented the measuring from a sample from New Zealand´s leading universities. Control variables were gender, education, and working experience. The results indicate that attributional complexity is a "domain-specific aspect of cognitive complexity (i.e., complexity with regards to social judgment) that underlies each of the dimensions of transformational leadership." (Sun, 2012)

Transformational leadership has been noted in the literature as having positive results when it comes to organization´s well-being, performance, and effectiveness (Sun, 2012). Researchers have also found out that higher levels of cognitive complexity significantly advance abilities to manage complex environment (Sun, 2012). Transformational leadership has been shown to involve greater and more diverse understanding for individuals and their behaviour as well as including stronger values and a more sophisticated evaluation of behaviours (Sun, 2012).

> "Higher levels of attributional complexity reported by leaders demonstrate higher levels of transformational leadership behaviours." (Sun, 2012)

2.2.4   Cognitive complex ability

A person with more cognitive complex ability analyses from several perspectives, takes into consideration many possibilities, and understands deeper reasoning (Sun, 2012). When this kind of cognitive complexity is used in social judgment it is understood as attributional complexity, which is related as important entirety of transformational leadership, and even more precisely associated with the charismatic component of transformational leadership (Sun, 2012).

A study by Melina Aarnikoivu et al. (2017) points out the lack of cognitive complex ability and the lack of understanding of complex entities when communicating with policymakers. The study points out four outlines to clarify theoretical thinking into contesting analysis in respect to social challenges, which the world is facing. The complexity of tasks presented is not the number one problem itself, but how to contextualize evidence-based information in a best possible way, so that the limited views which law-makers might have would open up and they would see and understand the "whole picture" (Aarnikoivu et

al. 2017). This is an example of the challenges of complexity thinking which has many views and understands connections in time and space but requires intellectual and pervasive understanding. How, as a leader for an organisation or a scientist for lawmakers, can one help to open eyes, understand transformation and attributional complexity, and enable creativity and adoptive space?

3   RESEARCH TASK

3.1   The research topic

This study approaches to understand complexity and complexity leadership in Savonlinnan Taidelukio, a certain upper secondary school environment with a special emphasis on music and visual arts. The purpose of the study is to find out, mainly by interviewing teachers, how they understand and experience the complexity and what kind of leadership practices do they find helpful to cope with complexity in their daily working lives. The results are analyzed in terms of four theories from complexity and transformational leadership theories with an aim to build a better understanding of the phenomenon and to find possible connections between the practice and the theories.

People around the globe perceive that the world around us is becoming more and more complex all the time. It has become a mantra, which we hear all the time and everywhere. What does it really mean, and what can we do about it, other than just keep repeating it everywhere? There might be a risk that we are using complexity as a general explanation to almost everything, with a supposition that it is beyond our power. If we don´t understand the essence of what we are dealing with, it is much more difficult to nourish creativity and confidence which would help us to live with it. Could we learn to deal with complexity as an everyday condition, to which we have power over?

The findings of the research are meant to help understand, through organizational dynamics, ways of coping with everyday complexity and acting dynamically with its surroundings; having ongoing acting and reacting relationship with it (Morrison, K., 2002, p. 5).

3.2   Research questions

I formed for this case study three main research questions, along with a few related sub-questions that I believed could be addressed with interview data from the participants in my case organisation. The main questions are as follows:

3.2.1   After trying to understand complexity with the help of Cynefin™ model: Do teachers experience complexity in everyday working life, in Savonlinnan Taidelukio?

a) If so, how do the participants, in Savonlinnan Taidelukio, perceive complexity corresponding to this (Cynefin) theory?

b) If so, what kinds of issues does it rise up from their everyday working life as a teacher in Savonlinnan Taidelukio?

3.2.2   How do the participants experience leadership practices in Savonlinnan Taidelukio?

a) In connection to previous issues, what kinds of leadership practices do the participants experience helpful in coping with the complexity in their everyday working life, in Savonlinnan Taidelukio? Or, do the leadership practices have anything to do with this issue?

b) In a context where we think that creativity is one of the key issues to deal with complexity, is it possible that leadership practices can support and inspire "creative flow"?

3.2.3   How does the collected data relate to four (4) themes from complexity and transformational leadership? Does the data seem to be related to the theory of answering complexity with complexity (Uhl-Bien, 2017)?

Is it possible to see such connections that form real-life models around complex leadership thinking, and does real-life connections explain what "answering complexity with complexity" could mean in practice?

4   IMPLEMENTATION OF THE STUDY

4.1   The Research Process and the Participants

Savonlinnan Taidelukio is a Senior Secondary School of Arts and Music. Representing a special –type of school with an emphasis to specialized discipline(s), it is the oldest this type of school in Nordic countries. It was founded in 1967 and it is located in southeastern Finland in a small town and a municipality of little over 30 000 inhabitants. The school has +/- 250 students altogether.

Along with general upper secondary studies and matriculation examination, students study an average of 25 art courses of music or visual arts. Besides all that, the school offers a variety of other optional choices, for example, business or theatre studies.

One of the reasons for my curiosity about complexity in Savonlinnan Taidelukio was the fact that bringing together general senior secondary school and an art school has, as a starting point, some more challenges compared to basic upper secondary school. In that sense, one could imagine this organization being complex in its nature.

The other one is, that I, myself have been working as a part-time theatre teacher in Savonlinnan Taidelukio for almost 10 years. Therefore I, as a teacher, am an insider in the school and I already have a long history in the organization. On the other hand, I have never been one of the permanent full-time teachers. I am representing a person coming from a "different world", theatre. I sometimes feel like an insider, but at other times more or less as an alien. Theatre studies are offered as an optional and integrated program along two majors; visual arts or music.

As part of my educational leadership studies, I read leadership theories and something struck me in complexity leadership, or maybe it was just complexity that struck me, but I realized that I was in the middle of a very interesting case to investigate.

The interviewees for my study were all full-time teachers in Savonlinnan Taidelukio. Their working experience in this school ranged from under one year to over 20 years. Some of the interviewees were quite at the beginning of their careers, others very close to retiring. They represented both, general subject teachers and art teachers, as well as both genders, male and female. Among the art teachers were teachers from both majors, music and visual arts.

TABLE 3. The ratio of seven interviewees in gender, years of experience, and teaching segments

male / female	teacher experience: under 5 years/over 10 years	general subject teacher / art teacher (music or visual arts)
2 / 5	2 / 5	3 / 4

4.2   Ethical Solutions

According to government regulations (chapter 11 § 75), a research permit must be applied if collecting data in schools. Permission for my research is signed on the 15th of May 2018 by the head of the culture and education department in Savonlinna.

All interviewees signed a personal research permit (Faculty of Education and Psychology, JYU) and were explained that all data will be handled and used in a confidential matter and presented so, that the personal identity of the participants can´t be revealed.

I felt important to assure as much sensitivity as possible. Case study as a method encourages to sensitivity, which I felt important not only because I was familiar with the organisation and all the interviewees, but also because of the double complexity of the phenomenon.

During the study, I have followed academic rules for research work, in the best possible purpose.

4.3   Methodology and the methods

4.3.1   Qualitative, empirical, explanatory case study

Case study as a methodology developed on both sides of the Atlantic (U.K. and USA, p. 2) at the same time in the late 60´s and early 70´s to fill the gap in social science research and, especially in the beginning, to help understand educational environments and experiences of participants over a certain phenomenon (Simons, H., 2009). Clearly, there was a need for this type of approach since, according to Simons, H. (2009) case study methodology was taken into practice and developed towards today´s versions, in conferences during next 30 years.

Nowadays case study has different meanings in different disciplines and among different people (Simons, H., 2009). The core of it lies somewhere in the idea of investigating singularity and particularity and the complexity of subjects in action, in a certain setting or as Yin, R.K., (2014) describes a need to understand complex social phenomena. A case study does not seek generalization, but it can finally lead, for example as part of some other study, to a better, deeper understanding of a particular case (Simons, H., 2009, Yin, R. K., 2014).

Based on, how Creswell, J. W. (2012) and Yin, R. K. (2014)   present a case study, I decided to use this methodology. A case study is a study where a certain phenomenon is viewed through one (in this case) organisation and the data is collected by interviewing and by observing in the actual real-life surrounding (Creswell, J. W., 2012) or as Yin, R. K. (2014) has defined:

> A case study is an empirical inquiry that
> a. investigates a contemporary phenomenon within its real-life context, especially when
> b. the boundaries between phenomenon and context are not clearly evident.

One more thing to add from Yin, R.K., (2014) is that the research questions mainly are *how* and *why* –questions.

Trying to understand complexity as a phenomenon in everyday working life, through a singular case (Savonlinnan Taidelukio), I chose to mainly use in-

terviews to explore the extent to which interview participants described their experiences and perception in terms of the theories I reviewed in the literature in preparation for this thesis.

From a theoretical background, I am pointing out, as a base to discussions, the Cynefin™ model, which helps to set boundaries to what we understand as complex. To begin the interview session, I will actually show the Cynefin™ model to the interviewee and explain what it mainly presents, as well as a short discussion of the theoretical question: should we think that complexity is somehow "self-organizing and penetrating the whole world" as a conspiracy theory or should we more understand it as a natural state, where stable and balance is not a normal state (Urry, 2006, p. 112). After the actual interview, I want to get back to the Cynefin™ model, once more. I am curious to know, how much the participants experience that these four sections (simple, complicated, complex, chaos) present their everyday working life. The question might get too difficult if analysed too much, so I will instruct the participants intuitively share 100% among the four sections.

4.4   Interviews and Data Analysis

All full-time teachers in Savonlinnan Taidelukio received an interview proposal through Wilma, a digital platform for communicating and connecting inside an organization, personally from me. I was lucky to receive seven (7) volunteers representing heterogeneously teacher material. Their working experience in this school ranged from under one year to more than 20 years. Some of the interviewees were quite at the beginning of their careers, others very close to retiring. They represented both, general subject teachers and art teachers, as well as both genders, male and female. Among the art teachers were teachers from both majors, music and visual arts. Interviews, which lasted between 50 to 140 minutes were recorded and transcribed.

All seven (7) sessions started and ended with a look at the Cynefin™ model as an aim to clarify what complexity means compared to complicated, obvious,

and chaos. It was important to get the interviewees free their thinking and this starting point helped with that. I also tried to formulate the questions as well as the conversation so that it would encourage spontaneous speaking around the subject, and especially from the point of view as a teacher in Savonlinnan Taide-lukio.

I grouped the interview material under my research questions where it started to reveal connections, clusters, and main points. The material was grouped in Finnish and the results then translated to English by the author. Those I gathered under distinct topics. It meant moving some statements or quotes back and forth under different themes, and those as well I ended up editing along the way. Finally, I ended up dividing the material under two main topics, which could start helping to understand the essence of complexity in Savonlinnan Taidelukio. Those I named *a. given circumstances* and *b. organisational culture*. The first one includes things, which are more, or less inevitable and experienced to represent something that is coming from outside the organisation. The second one represents, under several themes, atmosphere, and practices inside the organisation, at the same time being something where people inside the organisation can somehow influence.

Figure 3. Themes connected to complexity recognized in Savonlinnan Taidelukio. (Kira Boesen-Muhonen, 2019)
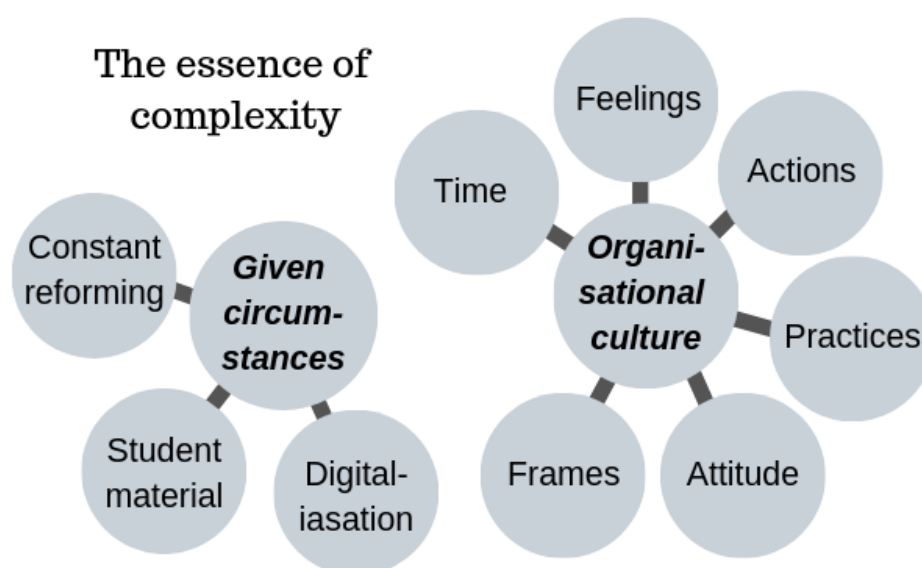
4.5   Reliability and validity

The phenomenon is complex in itself. The interview results which form a great deal of the data should be understood as a whole to see the possible rich inter-connectivity between everything. There are only seven (7) participants, but their answers seem to form a small microcosmos. Then the question is, how do I understand that connectivity as a whole, how reliable that is in a bigger context, and does it seem to relate to the theoretical literature I reviewed for this thesis?

I think that there are some facts that back up my ability to understand the abstract whole; my working experience in Savonlinnan Taidelukio for 10 years, my previous, seven (7) years of experience as a principal in an art school (Taidekoulu Hyrrä), and my background from some other area than education. I hope that all these, together with my life experience gives me some perspective. (see also Limitations 4.6)

4.5.1   Construct and external validity

There are some factors that I want to point out as considered belonging to construct and external validity of the study. Even though some weaknesses can be pointed out (see also Limitations 4.6), the study, as a whole, seeks to strengthen the main points of the construct and external validity.

> When we claim to construct validity, we're essentially claiming that our observed pattern – how things operate in reality – corresponds with our theoretical pattern – how we think the world works. (William M.K. Trochim, 2020)

The main point is to see and understand the theoretical pattern and how it corresponds with the observed reality in Savonlinnan Taidelukio. The perspective that seeks to be "relationalist" according to how Trochim (2020) explains it.

There is a connection to the real world. The interview results and findings aim to represent such that they can be applied, at least into a certain level (Arlin Cuncic, 2020)

- in to other teachers
- to other secondary schools
- to school world in general

- in to educational leadership thinking in Finland

Figure 4. Idea of Construct Validity. (William M.K. Trochim, 2020)
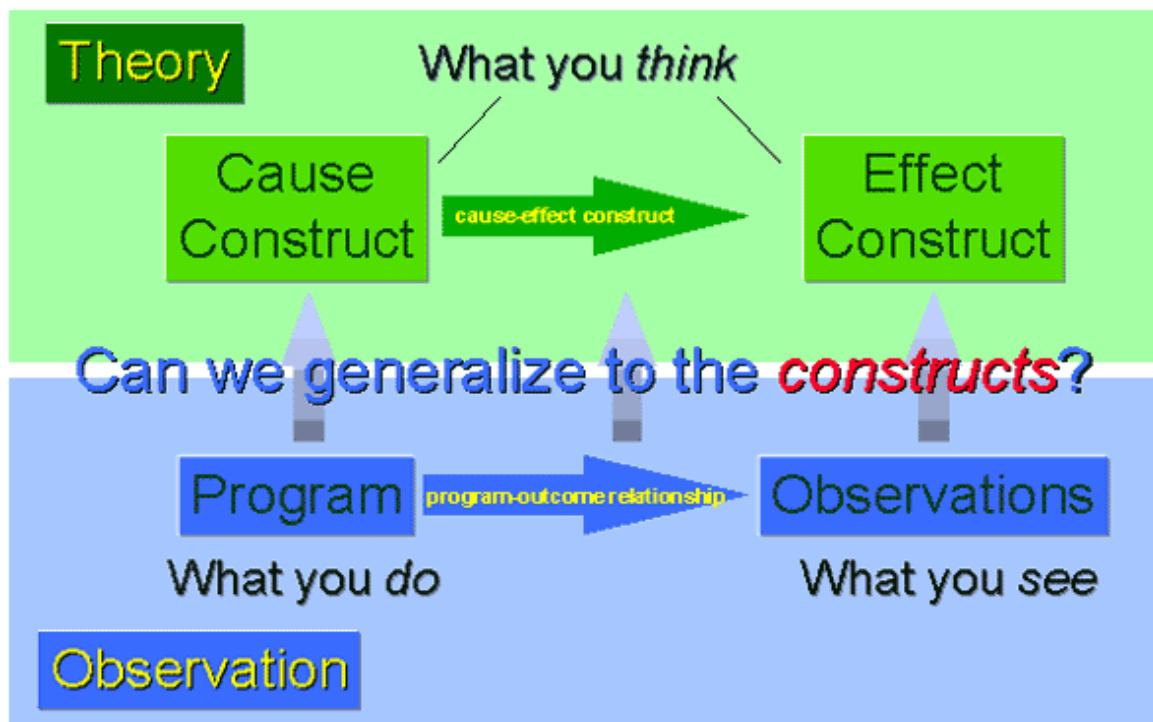
4.6 Limitations

As noted already, there are only seven (7) interviewees and even though they represent both, art and general subject teachers, senior and junior teacher, and male and female, the total research group is still quite small. It should be kept in mind that the interview results might have such impacts as personal mood of the exact moment, different places (home, coffeeshop, school existed according to where the participants wanted to meet), or specific stress factors of the time when the interview is taking place.

If the fact that I, as a researcher, am in the middle of the organization also as a part-time theatre teacher and have known it, as well as most of the partici-pants, for quite a long time (over 10 years), might add validity to my research, it also certainly sets some limitations. That should be taken into consideration or at least not forgotten when reading the results and the discussion.

5 INTERVIEW RESULTS

5.1 Do teachers experience complexity in everyday working life, in Savonlinnan Taidelukio, and if so, how?

Because my topic was inherently complex and abstract, I felt that it was important to clarify what I hoped to explore, before the actual interview began. With the help of Cynefin™ model and philosophical examples, all interviewees recognized experiencing complexity in their everyday working life. At a point where the interviewee started to find connections to complexity in her/his working life and describe, how it differs from complicated or chaos, I felt that we could move to the actual interview.

The participants found different ways to understand and describe complexity but finally, they were talking about same issues. One teacher perceived complexity through the difference between chemical and physical reactions, the other one through the creative process in arts and the third one through social contacts with students and colleagues.

Their answers also seem back up the widely held perceptions and experiences that the world, where we live, is turning more and more complex. The longer the career, the stronger was the experience of this assumption being true. Also, those who were in the quite beginning of their careers, felt that complexity is increasing. The attitude towards this phenomenon varied from fear and fatigue (negative) to necessary evil and acceptance (neutral) or even to experience it as a positive driving force (positive).

> One can´t compare what it was like in the old times. The timetable was the same thru out the semester (fall and spring) and the students didn´t have to stress about it. They had time to live their youth. (Teacher 4)

Participants were able to relate and understand complexity as a feature, "a normal state". This was described for example with the idea that teaching, itself, is complex in its nature; one has a certain goal as a teacher but how to get there

is not always clear, since we are working with humans. You can never know exactly or ahead what kind of situation your students come from, so a teacher needs to be creative and understanding to find the right paths and right tools to reach the goal. Teachers described that this is one of those things that makes teaching, as a profession, interesting and meaningful. This understanding seemed to have a connection to one´s acceptance of the phenomenon in general. When talking about complexity in this context, participants described it to be a positive challenge / a driving force and something, which is under their expertise.

Participants did not experience that compounding general upper secondary school to art school is complex in itself, contrary to my supposition. They described that it does require flexibility from everybody and lots of "things happen" all the time, but on the other hand, they considered it rather be a value, which adds to everything. General subject teachers of the participants described that art emphasis maybe lessens their teaching time and causes some nonattendance, but also adds to their subjects, strengthens students´ self-esteem and the operational culture inside the school. The fact that teachers generally are ready to adopt and integrate raised a question if certain types of people have ended up working in Savonlinnan Taidelukio or is it the organisation and its culture, which moulds people into such adaptability. This question arose a few times by the participants.

> I teach students in my class and in the evening, I go to a concert or an art exhibition and I see the same students doing all these marvellous things. After that, I don´t mind if they missed some classes. The entirety becomes much more important. Understanding that, I feel that my work is much more meaningful. (Teacher 3)

The discussions also rose a question, if we should concentrate more into people´s wellbeing in our school, how to make it a good place for everyone, rather than focus on too much reforming, which is more discussed later in the results.

5.2   How leadership practices are experienced?

a) In helping to coupe with everyday complexity?

b) Enabling creative space to support a complex adaptive system (Uhl-Bien)?

Participants generally described Savonlinnan Taidelukio as a good and meaning-ful place to work. They feel that the climate inside the organisation is creative, equal and accepting and the organisation in principle has an open speaking cul-ture. They also said that they don´t experience gossiping among the faculty and that the teachers appreciate each other. All this good has given birth to a term, "Taikkarihenki", which means something like "the spirit of Taikkari (Savonlin-nan Taidelukio)". Teachers explained to me that *Taikkarihenki* has long roots; all the way back to 1967 and the attitude of the very first principal of the school. Faculty and the students are proud of *Taikkarihenki* and it is carried on collec-tively. Participants also generally describe experiencing occupational respect as well as the pride of the whole school from the principal.

> *Taikkarihenki* is often referred to, for example, if something is NOT representing it. (Teacher 1)

All participants believe that leadership practices do have an impact on coping with everyday complexity.

5.3   Given circumstances

Here I present and open up three (3) themes, in no specific order, which rose from subgrouping the research material under the first main topic: given circum-stances, which can hardly be influenced from inside the organisation. An indi-vidual, or the whole organisation, must try to adapt to them as well as they can.

Figure 3. Factors of Complexity recognized in Savonlinnan Taidelukio. (Kira Boesen-Muhonen, 2019)
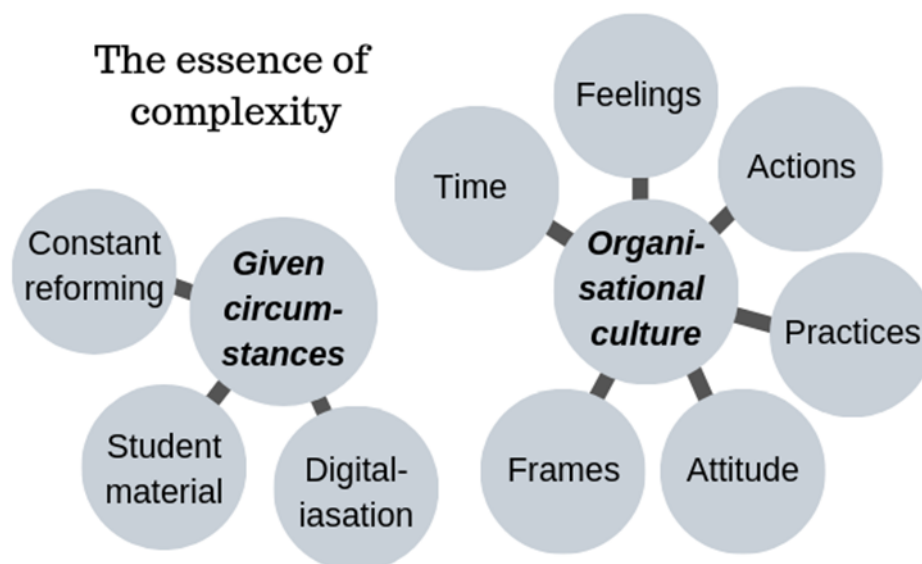
5.3.1 Student material

All interviewees described increasing heterogeneity and diversity among students. They named several reasons for that. The most frequently mentioned factor was the students´ mental health. Diverse diagnoses, and that there are more and more of these students, should be taken into consideration in planning and in communication, as well as the ability to act in acute situations.

> I feel armless in these situations. I wonder, if I have done enough? Have I, or someone else, conducted the student to the right kind of services? I wish for help – I don´t have expertise to this? (Teacher 7)

> Either these problems are really increasing, or they are diagnosed more but, according to what we are experiencing, I am afraid that it is the first one. (Teacher 4)

Teachers described these issues problematic for them since they should require such professional expertise that teachers don´t have. A teacher should take into account the diverse needs and complex problems of students without the expertise in them, which leads to a feeling of helplessness and is at the same time requiring an unreasonable amount of energy. Teacher´s main goal to make progress in learning gets sometimes buried under irrelevant problems of students. On the other hand, they described, that there are "hidden cases" among students, that don´t show out until it is too late. Then the student is already deeply de-

pressed and shall need much more to recover. Just the knowledge of this uncertainty is causing even more stress. Participants described feeling not only helplessness, but also sadness, despair, and inadequacy.

Another factor mentioned which may have a connection to the previous one is increasing diversity in student motivation and baseline. They described, that the difference seems to be now bigger than before. One reason, mentioned, was the fact that student numbers have fallen generally in Finland, which has lowered the high school entry levels. This challenges teachers, more than before, in keeping everybody on track. While using their energy to motivate those who are not, they worried, that they might at the same time decrease the motivation from those who are eager to learn and would like to have challenges. The participants noted that this is more understandable in an art school compared to general schools, because if simplified, some students apply for school, mainly because of the art education they can have there. But, even in that context, an increasing challenge having to start from basics, such as the literacy skills of students, was described to cause concern and feeling of inadequacy.

Participants also brought up constant changes in the system, which seems to increase uncertainty among students and complicate their study planning. This all stresses teachers´ understanding of justice and crumbles teacher identity; are we losing the didactic value of upper secondary high schools? Nowadays, students are in a position where they should be able to make choices, already in the beginning of their studies, knowing where they are heading in their future, even though at the same time nobody knows what the world or the working life is going to be in next ten years, not to mention next 50 years. This paradox is unbearable for many students and may lead to mental problems as earlier stated.

> From the student´s point of view, the study planning seems to have way too many choices, and students get lost with it. They don´t know when they should take certain courses, because it is impossible to see the big picture since it is changing so rapidly. They have to try to collect these "imaginary points" for their further studies without knowing exactly what, why, and when. I think this is really unfair and again wears out students and causes mental problems. (Teacher 3)

> Our workload has increased with these diverse problems and also, we collaborate more strongly with students´ custodians. That takes time and energy too. But of course, everybody´s goal is to find the best possible solutions for the student, so we do all we can. (Teacher 4)

5.3.2   Constant reforming

A strongly commented theme was constant reforming and to be exact, national curriculums, which are, according to participants, reformed much too often, which is causing an unreasonable amount of work that never seems to end; the last curriculum is hardly tested, and the next one is already under construction. Participants felt that the reality and the curriculum work in ministry don´t meet at all the way they should. Teachers experience that the ministry does not listen to them in this manner and that no results are waited from the previous curriculum, before starting a new one; this all arouses frustration among faculty.

To my experience as an interviewer, this frustration was present during the interviews; lack of assimilation and real learning experiences have become a norm because there is not enough time for those. There is no time to "even out", and according to participants, frustration is maximized because most of the reforming does not answer to fundamental questions, which would justify them; "Why change something, which works well? Why bring in new teaching material just because it is new, and at the same time lose basic material because there is not enough time for everything? Why don´t they ask us, teachers?" According to participants, the workload in frequent curriculum reformation feels endless and it appears for example to provide unfinished teaching material and incomplete ideas, which teachers have to face and integrate in their everyday working life. Deriving from that, strong criticism got the fact that changing schoolbooks almost every year is, not only unsustainable, because used books can´t be recycled to the next class anymore, but has none or hardly any new information value. The participants described that there is no time to learn from the last curriculum before the new one comes in. Being busy all the time streams down to students, and causes distress and too few succeeding experiences.

New ideas are brought into curriculums. For example, now students should search information and data by themselves. However, the interviewees described that there are many problems with that. Often students don´t have the skills to find reliable sources or since the information is scattered, the main points get lost; they have not learned enough criticism; they are left with no time to internalize

the information; and as a result, many students give up with such endless tasks, endless because of the unlimited source material.

The participants described a feeling of insufficiency, because there is not enough time to do things as well as one would want to. For example, many students would like to have distinct studying material but the curriculum conducts towards self-learning and data acquisition. Participants described that this nourishes the feeling that they are forced to act against their own expertise of what would be the best possible way to confirm learning.

> Often, I help my students by providing them the exact material, so that they get what they need to know. The students are very grateful for that. Even though according to curriculum, I should not do that, but at the same time, I see how exhausted and stressed out they are, so I do what I can to help them progress. (Teacher 4)

One more issue, which relates to reforming, is finance. Among the participants, the younger teachers seemed to worry more about finance than the senior teachers. It was understood and described that the power over finance is more and more somewhere else than inside the school and the principle. This increases their worry about their jobs and the future of the whole school, as well as about the fact that money available is more and more scattered over to diverse projects rather than to the basic operation. This might lead to withering the basic structure of secondary education.

5.3.3 Digitalisation

The third subject was digitalisation, which interviewees experience to be both, good and bad. The biggest problem is again too rapid change and lack of up-to-date knowhow. It is a field where teachers described that they don't have much expertise to start with, but on the other hand, they are expected to use it in multiple and innovative ways; teachers either try to grasp the hold of it mostly by self-learning, or submit to use it as an obligatory tool in their work. In such cases, it might end up slowing down the basic teaching and learning. A general feeling was that, when the school invests in digital equipment and network, it is unfortunately likely outdated in a couple of years, just when it was about to be learned

and taken under control by the faculty. Participants described that often technical problems occur in teaching situations. Mostly those problems can´t be solved instantly and too often, something that they had planned to be done, is not possible because the computers or the programs are just not working right. Much more time and resources were hoped to be given to introduction, but at the same time was asked, where can we take those from?

Participants also described problematic that orders and regulations to use digitalized material, certain learning platforms, or programs come sometimes from outside the organisation and there is not enough if any clear reasoning for that.

> They told that we have to use a certain platform because our city had bought it. Well, it didn´t work well enough, mainly caused problems and was not helpful at all. (Teacher 1)

> Even, when I have all the material in digitalized form, I do offer students paper copies, in case they wouldn´t have a computer or so. I have realized that most of the students take the paper material, because they like it better, not because they don´t have a computer. (Teacher 1)

Alongside this, it was also described that digitalisation is helpful and handy. As long as it does not create too much uncertainly among users, participants considered it to enable almost endless possibilities to support learning and creativity.

A discussion of digitalisation, as part of the curriculum and as an information searching tool, leads to a concern of information overload, which was described being difficult to understand and handle by anybody, also teachers, and a worry arouse how students are able to cope with it meaningfully.

> The overload of data available is terrifying me when I think students. (Teacher 5)

A few years ago, the ministry decided on a national level, that the matriculation examinations, which have always been on paper, would be changed to electronic form in a couple of years. That was a shock for many teachers and students as well, but according to participants, enough time was given to this change. It was carried out step by step so that problems and challenges which occurred along the process could be dealt with, before moving forward. Such

huge process underwent many tedious surprises, but now when it is finally fully in use, people have mostly accepted it.

5.4   Organisational culture

In this section, I describe and open up those themes, which represent the second main topic, organisational culture. These five themes were again subcategorized from the interview data and the faculty and the organisation have more or less power to influence them.

Figure 3. Factors of Complexity recognized in Savonlinnan Taidelukio. (Kira Boesen-Muhonen, 2019)
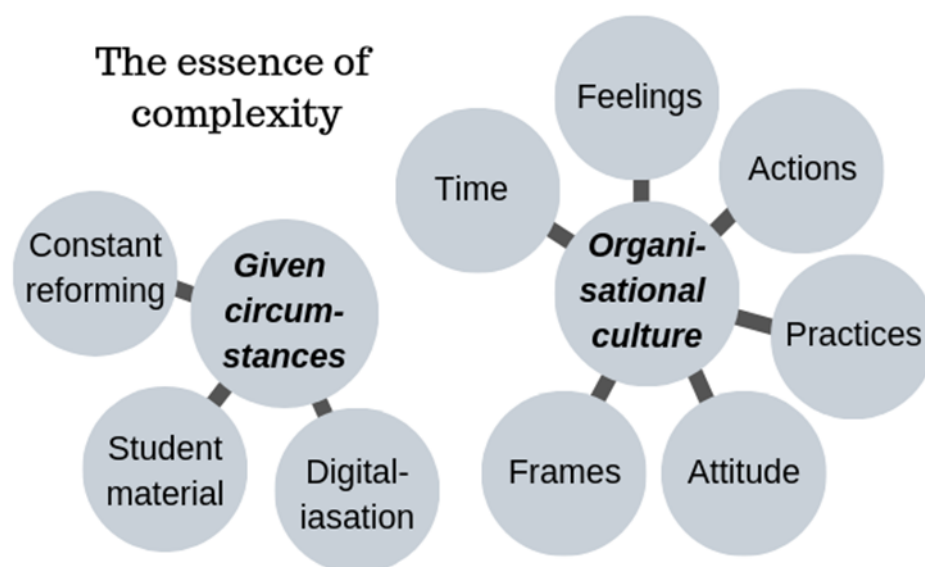
5.4.1   Feelings

Brought up and explained by the participants.

- empathy – understanding, humanity, compassion, emotions are allowed and understood (also negative feelings)

> It is important that the leader is ok with her/his own feelings and emotions, to be able to read and understand employees´ well-being and take it into consideration with respect and understanding. (Teacher 1)

- trust – the leader trusts employees, does not guard or require constant reporting, employees trust their leader, they know that the leader takes care

of issues that belong to her/him and won´t embarrass you (e.g. make a joke of your comment in a meeting)

- togetherness – leader supports employees, employees support leader, everybody is taken into processes right from the beginning

> A supportive leader is on the employee´s side and is interested and understanding. (Teacher 5)

- previously mentioned *taikkarihenki*, the spirit of Taikkari, which has become part of organisations culture during its history and is carried on collectively

Empathy and trust were considered being the most important feelings and features in connection to leadership. The participants gave concrete examples and general assumptions to demonstrate the value of these issues. Empathy was connected, for example to the presence of the leader, by this meaning both, physical and mental presence.

> It is a feeling that the leader is truly interested in your work and wellbeing. (Teacher 2)

It was described, that it does not need so big showing of it; a question every now and then, listening to the answer, showing understanding, even a smile or an encouraging look are experienced strongly meaningful when coming from the leader, not to mention the importance that he/she also takes into consideration the personal lives of the faculty. If there is strong adversity or other big changes, the leader is able to sympathize and for example, temporarily lighten your workload.

On the other hand, participants pointed out that the experience of empathy from the supervisor is easily lost. When an employer needs empathy; for example, something negative has happened or maybe one is excited to share a wonderful idea, if you are ignored by your supervisor in that specific moment, it can be very destructive and have a long-term impact not to share your feelings again.

Togetherness and *taikkarihenki* were described as being values of the school and as part of it, advancing and enabling leadership culture has been transmitted from the very first principal of the school to his followers. Participants used term

taikkarihenki a lot and described it mostly meaning togetherness and peer support added with the previously mentioned empathy and trust. They described a feeling of belonging, where individuals (teachers and students) are supported to explore and learn, as well as an upward attitude where impossible can be reached together. The interviewees did not question all this. Those participants who had worked in the organisation for several decades identified differences in time and different personalities as leaders, but *taikkarihenki* was still felt being something above that. It was explained being something so valuable and nurtured, that no one person could destroy it. To end this chapter must be mentioned that this praise of *taikkarihenki* didn´t prevent participants from being critical, or recognizing problems and challenges, which they are facing in their everyday work.

Connected to this section the participants pointed out a couple of more issues. They felt important that feelings are allowed inside the organization, and that trust, empathy, and togetherness between people, horizontally and vertically positioned in the organisation, are understood representing a two-way path. This would mean for example colleagues supporting each other as well as support between a teacher and the principal. Negative things should be encouraged and allowed to be said and heard too.

5.4.2   Practices

The examples listed here could be seen as part of the strategy in implementing *taikkarihenki* and the issues under the first section (feelings). They all are connected to leadership practices and the organisational culture in general.

- equality - a basic, shared rule in every decision making and behaving
- listening – it matters what you say, that you are heard and your ideas or suggestions are taken seriously
- feedback – especially positive, but also "negative"

> It is important to feel professional respect and that can arouse from small things too. A positive comment gives a signal that a leader is interested, notices what you do, and you as a worker matter. (Teacher 5)

> Positive encouragement is more than welcome. (Teacher 4)

- mistakes are allowed, it is possible and encouraged to try out things

Making mistakes is what we try to teach our students. Art is born from "mistakes". (Teacher 6)

- support – when difficult issues, you have a supporter

I think a leader is rather a "side by side walker", who is there to help you if you need help for example in a student meeting or if it is needed enables the professional help to solve a problem. (Teacher 7)

- transparency – as much as possible in everything, the leader does not

hide negative issues either

I think the leader should trust us and tell us what kinds of problems there are for example in finance. Maybe we, the teachers, can help solve some problems and we can support him in difficult situations. (Teacher 4)

I admire how well our leader takes care of informing what´s going on. It is totally different from what I experienced in my previous job. He sends e-mail or Wilma message about everything right away, so I hear about things straight from him, not two days later from someone else. (Teacher 5)

- feedback – especially positive, but also "negative"

Equality was considered to be one of the most important values. The participants were very strict about this and described it as "a must" in everything. According to them, equality is implemented well in the school, but at the same time, it was also explained representing something, which can never be fully accomplished. The participants had experienced situations inside the organisation, where they felt inequality. For example, such were the experiences of not being heard, which were mainly more or less connected to a feeling of rush – that there is not enough time to listen to all ideas or things. The assumption can be for example that some ideas are seen more valuable than others, or even depending on, who is presenting the idea. These examples lead straight to the next issue, which is listening – the participants described either, the kind of situations mentioned earlier or others where one gets to speak out, but is not really heard. This was related to urgency or simultaneous multitasking of the listener.

Participants value feedback, especially from their supervisor, but also from colleagues. They want to hear and experience positive feedback, which was described as being maybe just a word or two, a smile, or just a feeling that comes

across. It makes you feel that you and your work are seen and appreciated, and that it matters what you do. Negative or constructive feedback is wanted as well and that is experienced important in a lifelong learning process of your profession. In connection to this, was described the permission to also make mistakes and learn from them. This kind of cultural climate was portrayed as being a base for all teaching and learning. However, participants connected this more to their own professional expertise and not to those areas where they felt insecure, for example, student health. In such cases, nobody wants mistakes.

Transparency was mentioned important but experienced in different ways. There was much talk about internal information, which was considered both, well or poorly taken care of. For example, informing via e-mail or Wilma was enough for some participants when others felt it artificial or too formal. A shared opinion was that teachers do want to know, what is happening in the organisation.

5.4.3   Structures / Methods

In this section, I am describing internal methods within the organisation, which were pointed out by the participants. They are in connection with previous: feelings and actions.

- communication – everybody gets same information same time, weekly meetings, things agreed together, a possibility to express ideas which are heard, information is available, no need to guess anything

- feedback discussion – about once in a year or every second year, developmental ideas from both sides (the employee and the employer)

> Feedback discussions are important, but I think the most important are the more or less casual everyday discussions, and the possibility to meet when it is needed. (Teacher 2)

- presence – the leader is there when you need her/him, can go to talk almost any time

- timetables – year calendar, school timetable, regular meetings, learned good practices/traditions in scheduling (events, happenings don´t change every year)

> Weekly meetings are a very good practise. There we can easily, for example, come to a conclusion together, that we need more time to something and that can be taken care of right there. (Teacher 7)

- professional identity support – professional ongoing dialogue, pedagogical discussions, continuing further education or training (lifelong learning) enabled and offered

> I have participated in additional professional training and it has always been enabled by the employer. That is of course very good. On the other hand, it has also happened that the training has not matched my goals in the first place, so I have stopped it. And that was accepted by the leader too. It is a matter of trust, that I know what is good for me and I don´t have to attend something just for the sake of participating. (Teacher 3)

Generally, these practices were well identified and described as supportive. Another question seems to be, how well they are implemented, in practise. One positively experienced practice was internal scheduling, for example a year calendar and school timetables. It was explained by the interviewees that this scheduling inside the organisation is working surprisingly well if thinking how complicated the system is with combining everything from the general upper secondary school and the art school. One reason for that was thought to be that it has been improved and practiced little by little for so many years. There is less overlapping and clashing all the time; since there are many things happening throughout the year, it lessens stress when you know from previous what is and what will be happening. For example, so-called Taikkari-week is always the last week of January, Promenade -concert is always on Wednesday of that week, the matriculation examinations in fall and in spring or the entrance examinations in May. Also connected to scheduling were mentioned, for example, weekly staff meetings or yearly personal feedback discussions with the principal. What was found out problematic, was that sometimes these occasions, for example, feedback discussions, are experienced just formal duties, which just have to be carried out and have lost their original meaning.

Some of the positive factors which were mentioned in connection to fixed internal practices were the aim to share same information to everybody at the

same time, to create a regular opportunity to everybody to speak and share opinions and ideas, to ensure that you meet your superior regularly, and to ensure that you know he´s reachable even though not sitting in the office all the time.

Interviewees are longing possibilities for ongoing professional dialogue, life-long learning experiences, and pedagogical discussions inside and outside the organisation. The employer does offer opportunities to participate in additional training or education, but the problem was pointed out that there is not very much where to choose from, especially not anything really interesting and new. Inside the organisation some courses are offered too, for example in connection to digitalisation, but deeper dialogue and discussion were described happening only between some teachers and mostly on their own time. If you are the only teacher teaching a certain subject, you can feel quite lonely since you never have anybody whom to share ideas with.

5.4.4   Attitude

The participants explained that one´s own attitude can be a conscious decision about how one relates to everything, both leaders and the employees. One example was about going to your supervisor; what counts is really the first reaction you get from him, does the leader first says "yes" or "wait a minute", because he is busy. The "yes" supports the feeling that you are welcome to talk at any time. "Wait a minute" was described to make you feel that you and your business are just taking time from something much more important.

> How you talk about things: for example, when the change towards electronic matriculation examinations started, it was important that our principal brought good aspects of it into the light, instead of talking about the worst scenarios of it. (Teacher 3)

> If the leader is anguished and complaining, it all drains down to teachers and finally to students. If a leader is enthusiastic and supportive, he/she is an example to the whole organisation. (Teacher 4)

But as well as the attitude of the supervisor, participants talked about their own attitude. It was explained and compared to taking responsibility for the whole; if you are conscious about your reactions and what kind of energy you pass on to your environment, you feel better yourself. It is a decision of looking

at things through a positive lens and spreading positive attitude, but it does not mean closing your eyes from problems.

5.4.5 Frames

When talking about the leadership practices which help to cope with complexity, participants found comparison in artistic, creative processes, which are always complex in their nature. It was pointed out that in such processes the boundaries between people naturally fade away; the principal, the teachers, and the students. Finally, there is only a group of people that are sharing a creative process. Such liberation was considered very important and desirable in everyday work.

On the other hand, to release one´s creativity and improvise freely is not that that simple. It does not happen just like that. There is a possibility of chaos or freezing instead of feeling safe enough to reveal something interesting and important.

> For someone, who has never improvised music, the idea of it might be chaotic. But if you say to her/him that let´s improvise with one note only, it becomes reasonable. (Teacher 5)

> When you have clear frames, it is easy to move inside them. And what is obvious in our organisation, is that you have professional freedom to plan and do your work. (Teacher 3)

> I think the timetables are working better than before. There is less overlapping, and I can even make wishes about my courses nowadays. Actually, it is quite surprising how many wishes are finally implemented in the timetable. (Teacher 3)

It was noted, that some structures and limits are very much needed to free creativity and so become more adaptive. The participants emphasized that it is important to know what you can do and what you can´t do. And it is important to know the budgets, what is taken care of by whom in the organisation, where things are and how they work, what are the timetables and deadlines etc; if one can freely trust that certain things are taken care off by certain people, you can use your energy to other things.

> The leader can´t just create endlessly or stuck in confusion. He/she has to ensure that certain things can be trusted inside the organisation and then it is easier to face complexity and change. (Teacher 5)

5.4.6　Time

In Savonlinnan Taidelukio, these results reveal that one of the teachers´ works´ biggest limitations or challenges is time. Participants largely wished more time to almost everything; time for different types of discussions among faculty as well as with students, time to process things, time to plan and build visions, time to reflect. That would, as it was suggested by them, lessen unnecessary complexity and result in better solutions.

Working culture is transforming more and more towards projects after projects and that is supported by the national curriculum and financing. There should be at least some time to recover in between, according to participants. It was described: "To have some time to breathe, before moving into the next one". Another thought was that because the whole is more complex all the time so little things have huger effects, there should be more time to think before acting.

> Sometimes it seems that we are just patching over patchs because we have to react too fast. And as we know, typically after patching too much, the next hole is soon there, in the seam of the patch. The problems are seen for example in student care or technology. (Teacher 3)

Participants described that there is pressure to be faster and more effective inside the system, and that is one of the reasons why connections between problems are sometimes missing. For example, there might be a discussion going about students´ stress and burnout and elsewhere another discussion about adding up optional studies, or a nationwide change going on in entrance requirements for further studies. These all have a connection, but in a hurry, it is not noticed and solved as an entity.

> Quickly looked at, it seems wonderful that there is a huge variety of optional studies to choose from. But what will really happen when we open access to all courses in Savonlinna vocational school and the university of applied sciences. Because this is what they are planning to do. We already have a good variety of courses inside our school and it seems that students have enough challenges with all that. Wouldn´t it be better to focus on the options of one school, at a time? (Teachers 1 and 4)

Also related to time, is the participants´ experience of faster and faster changes, as well as an increasing number of requirements which are mainly com-

ing from the upper level, outside the organisation. This was compared to a saying: "Every change should have a reason, no matter how small it is" and to some reforms that are just ordered without asking and without explanations.

> Finally, this all adds up to students and they are the ones that have to do the work. (Teacher 5)

To turn complexity into a creative or even flow experience?

When asked about such practices that specifically encourage creativity and improvising in coping with complexity, participants brought up some issues. More difficult was a question if any of them could start a "creative flow".

5.5 Is answering complexity with complexity the way forward?

5.5.1 Is there a possibility that we are creating "a mice wheel" for ourselves?

This last question required more thinking from the interviewees, as well as from me too. It is not so clear what this tension means. It did lead the interviewees back to where we started from, and into the theory that the world is more and more complex all the time. Compared to that and the experiences from their own working life in Savonlinnan Taidelukio, the assumption was that the working life generally, in society, is changing faster and faster.

> I wonder how much more people can tolerate it. How many will have burnout and how many will retire prematurely? (Teacher 5)

It was suggested that someone should have a brake that could be pressed when the pace is getting too fast. Now it seems that nobody has it.

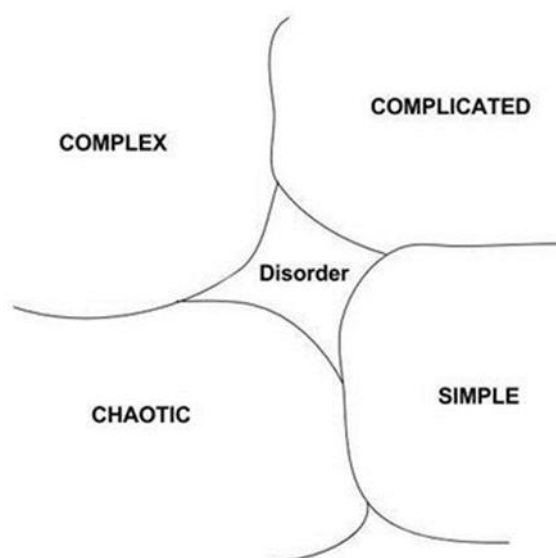## 5.6 Coming to terms with Complexity

In the end, the interview results have to be examined and understood as a whole to see the complexity there is. Not any single topic or issue is complex by itself, but when you try to see them first separately and then as a whole, it is probably

possible to see it. At least to imagine the rich interconnectivity which is happening there, not to mention the awareness of the increasing unknown.

After the actual interviews, I asked each of the participants to look once more the Cynefin™ model and intuitively fill up percentages of their personal experience on each of the four segments; simple, complicated, complex, and chaotic. It was notable that the results varied so much. What does that tell us? Maybe not much, or maybe just that even though we are talking about the same issues and matters, we have different kinds of understanding and relationships to the terminology. It might also tell us, that to really understand the complexity as a phenomenon, we need to take a step back and examine it as a much bigger whole. Until we do that, we are exploring it more as personal experiences, which of course helps gradually build the understanding of the whole.

There were much-shared issues and topics in the interviews but finally, participants labelled things and experiences a little bit differently. Therefore, it is much of the interviewer´s responsibility to connect the dots thru thorough interviewing to ensure that we are, in the end, talking about our very different perceptions and experiences of what might outwardly appear to be the 'same' issues.

Figure 1. Cynefin™ model

TABLE 4. The experience of simple, complicated, complex, and chaotic among the participants

Teacher	1	2	3	4	5	6	7
Simple	40	60	25	15	5	10	20
Complicated	30	15	20	15	60	20	50
Complex	**20**	**20**	**40**	**60**	**30**	**70**	**20**
Chaotic	10	5	15	10	5	0	10
Percentage	100	100	100	100	100	100	100

6   DISCUSSION AND CONCLUSION

In this section, I am trying to understand the results of the interview data as a whole, not as single issues or topics, but as a complex organisation with issues and particles in rich interconnectivity. How they seem to act as a whole and how, or if, they relate to the original research questions and four theoretical conceptual ideas I reviewed in preparation for my case study; complex adaptive system, adaptive space, cognitive complex ability, and attributional complexity. In my discussion I am interested in a more holistic view of the study and understanding the relationship between my interview analysis and theory related to complexity and leadership.

6.1.1   Positive and negative perceptions of complexity

Looking back to my research questions and comparing them to my results, I want to point out some considerations:

After trying to understand complexity with the help of Cynefin™ model, participants did describe experiencing complexity in their everyday working life, in Savonlinnan Taidelukio. What was notable, was that the understanding of complexity as a phenomenon got diverse descriptions even from individual participants. Roughly grouping those to two categories:

1. First, I see a connection to the philosophical assumption of nature itself being complex and that "there is no such thing as nature´s balance (Davis, 2000)". This seemed to include such complex issues which are, and have always been part of the nature of the teachers´ work. They were described as normal challenges which teachers face in teaching, and being inspiring much more than oppressive. Teachers connected this mainly to the fact that they are working and dealing with humans, which is also explained by Wilson (2000), who applied complexity theory into the social networks. This type of complexity seems to work as a driving force in a positive way and is connected to professional identity, problem-solving, and creativity.

Teachers do have lots of professional tools as well as professional problem-solving ability with this type of complexity.

2. On the other hand, there seems to be a strong experience of such type of complexity which is "somehow self-organizing to penetrate the whole world (Urry, J. 2006. p. 112)". The phenomenon in this context was described with a feeling of impotence and resignation. Compering the interview data, I came to the conclusion that this type of complexity either, directly or indirectly, deals with fast, uncontrollable universal development, such as digitalisation, or with political decision making, such as national curriculums.

These two categories seem to represent positive and negative ends of a spectrum when it comes to perceptions or experiences of complexity, as a phenomenon. The results from collected data represent both ends of the spectrum and everything in between. My concern rose after noting that the type of complexity, which was experienced negatively also seemed more active and unpredictable than the type of complexity which was experienced positive; Number two (2) type of negative complexity seems to overpower the number 1 (one) type of positive, "normal" complexity and have a negative impact on the experience of professional identity, and the ability to solve problems creatively. Type 1 (one) complexity doesn´t have such power on type 2 (two) complexity than it seems to be the other way around. The latter one adds up to the first one. For example, digitalisation is "just happening", and even though it can also influence positively, it is still something what we can´t very much slow down or change. It comes, and it has a strong impact on everything, also to type 1 (one) complexity which in the beginning was "an inspiring professional challenge" for the teacher.

Figure 5. Types of complexity recognized in Savonlinnan Taidelukio, Kira Boesen-Muhonen (2020)

Type 1 complexity	Type 2 complexity
positive	negative
"normal"	unpredictable
lifts / generates energy	eats / kills energy
driving force	feeling of impotence
ability to act	paralyzing
part of basic work	comes from outside
expertise	amygdala is activated
professional identity	chaos is almost there
tools to be creative	kills creativity
doesn´t have power on type 2	has a great impact on type 1

6.1.2   Layers of complexity surrounding the core functions

In the end, the interview results have to be understood as a whole to see the complexity there is. Not any single topic or issue is complex by itself, but when you try to see them first separately and then as a whole, it is possible to see it, the rich interconnectivity between everything. At least, to imagine the rich interconnectivity which is happening there, not to mention the awareness of the increasing "unknown". If mirroring this to Uhl-Bien´s (2017) definition of complexity and the rich interconnectivity, where the parts that are connecting, shape and change each other and the whole in an unexpected manner, one can make a conclusion, and as it was also described by the participants, that complexity itself is increasing; complex issues are changing into even more complex issues. There is a growing chance of something changing everything fatally in an unexpected manner. Could we understand complexity as layers surrounding the core functions? The more layers we have the more complex is the whole, and the outer the layer is, the more uncontrollable it is. Also, the more layers we have, the more difficult may the core functions become. Participants described that type 2 (two) negative complexity is sucking more and more energy and time, and that they

feel that they are torn to every direction. That is causing a feeling of inadequacy and so weathering professional identity.

Figure 6. Increasing workload recognized in Savonlinnan Taidelukio (Kira Boesen-Muhonen, 2020)
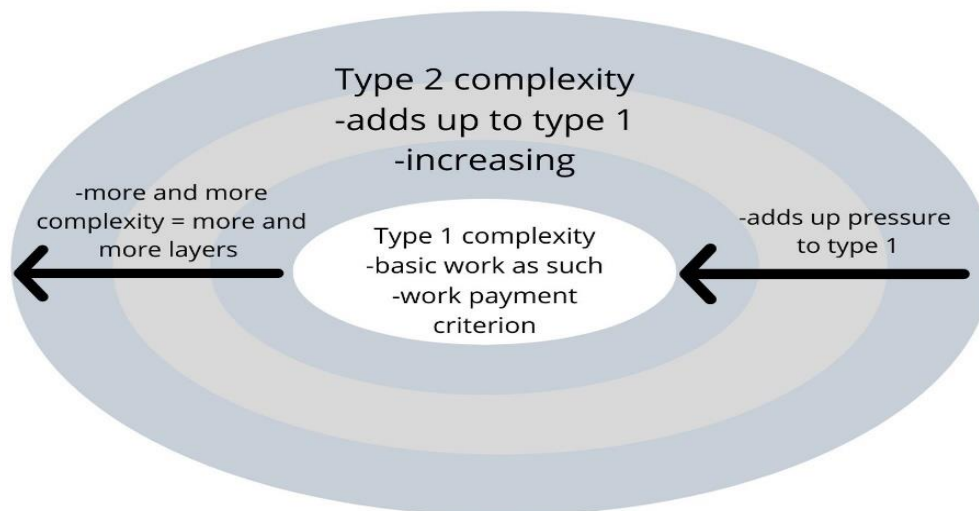
6.1.3 "Tumbling tower"

Have you ever played Tumbling Tower? To move on in the game, the possibility that the tower collapses increases after every move a single player makes. The further the play goes on, the more complicated and complex the situation gets. It is obvious that at some point the tower will collapse. This gets quite complex at some point, since especially towards the end, the particles affect and depend on each other more and more. Finally, by moving one block all blocks move, and in the end the whole tower, or what is left of it, collapses. In the beginning, the structure of the tower is simple and can be rebuilt over and over again. After a couple of moves, it has changed to complicated, but if the tower collapses, you could still build it back to that shape where it was just before collapsing. (The moves have not so much affected the basic structure and the blocks that are left, are in their original places.) But the fact is that, if we keep on going with the game, it will get more and more complex. What other choice do we have?

Can the development in this game, from simple to complicated and after that towards complex, represent simply what has and is happening in the world?

Picture 1. Tumbling Tower 1-2-3

6.2   Complex adaptive system and Savonlinnan Taidelukio

The willingness and the capability of adjusting seems to be strong in Savonlinnan Taidelukio. The staff is and wants to be creative and innovative in their basic work as teachers. However, they seem to want structures and practices around it all, and a leader who takes care of the whole. This does not suit together with the general idea of complex adaptive system, as a totally self-organising unit, without hierarchy. I am wondering if stability should be seen as a necessity to lead adaptability in a sense, that people are better freed to adapt if they do have a "strong base" underneath them.

There seems to be a balance well handled. The leader takes well care of enabling teachers to concentrate on their core work with students, which of course is, and should be the most important thing. To ensure this, the leader her/himself must work harder to keep everything together.

Nooteboom (2013) divides the theory of strategies (see table 1) either belonging to a. adaptive leadership or b. enabling leadership. There does not seem to be anything wrong with either strategy, but by looking at them in more detail and comparing them with the results of Savonlinnan Taidelukio; the first may have "hidden" problems. Strategies under a. adaptive leadership are handy and seem innovative, even spontaneous, but actually might have taken shape and gotten into use under the pressure, such as lack of time and resources or a need to be more effective. On the contrary, when comparing results to strategies under b. enabling leadership, it is quite obvious that those do take more time and resources, and are also more systematic, active, and planned. Any of them, taken into use, can end up sucking lots of resources, so they are in that sense dangerous.

What if the leader decides, for example, to use lots of more time to reflect on cross-organisational relationships than ever before, but ends up finding out that he/she not only lost a lot of time and money but got the staff badly off the track? Of course, the leader knows where he/she is aiming to, but can a real change happen without risks, losses, or collisions? I claim that both strategies are needed and that there are times when you have to use a. adaptive leadership strategies, but absolutely there must be time and resources for b. enabling leadership strategies too. That is if we want any change, and this latter one is, in this current structure, difficult to implement.

The interview results from Savonlinnan Taidelukio back up the understanding that operational and entrepreneurial leadership (Uhl-Bien & Arena, 2017) are implemented in many ways in Taidelukio, and that the enabling leadership is there, but not implementing systematically according to the theory. This is difficult to perceive since enabling leadership seems to consists of operational and entrepreneurial leadership. But if we think of these as a pyramid, where enabling leadership is on the top and so depending strongly on the operational and entrepreneurial leaderships, we can picture enabling leadership as a whole new layer on top of everything. These three types together should be the core of complex thinking that finally enables a well-functioning complex adaptive system.

> Being an extraordinary enabling leader requires a combination of deep conviction and humility. Enabling leaders must be convicted enough in what they are doing to take great risks in opening up adaptive space for others, and humble enough to step back so others can step forward. (Uhl-Bien & Arena, 2017, p. 18)

According to the results from Savonlinnan Taidelukio, the leaders there are and have always represented deep conviction and humility, and they have always been "humble enough to step back so others can step forward". At the same time, Uhl-Bien and Arena (2017) also do suggest that "the leaders should be convicted enough in what they are doing to take great risks in opening up adaptive space for others". It seems there is a dilemma here. Not, that the leaders weren´t ready to take risks, but how is this possible when the system is so structured as it is, as it should be, and as the school world generally is? To make this truly happen, the leader should not only be convicted himself, but convince others in the organisation to understand the need for a change, probably even a paradigm chance and at last, but not least have enough resources to go for it. Maybe the biggest question is that if we have the will, then where do we take the time needed if everyone is overworked. Besides all that, the law, regulations, and agreements dictate in many ways how the organisation should act.

6.2.1 Adaptive space, a structural challenge

Conflicting, connecting, research implications. and practise implications (UHl-Bien and Arena, 2017) discuss well with the previous Nooteboom´s (2013) strategies for enabling leadership, which should ensure adaptive space. These are actually, concrete instructions on how to implement the strategies which Nooteboom (2013) lists. Comparing these with the interview results of Savonlinnan Taidelukio, it seems that we are getting closer to the main problem if there is one. Every one of these four should certainly require such leadership resources which in the current situation do seem impossible, at least if should be implemented in regular, everyday leadership routines. The problem seems to lie, not in the leader nor the staff nor any certain practices or behaviour, but in the organisational structure, which the school has due to the history and development of school leadership generally.

Figure 5. Recognizing the steps of a theoretical (Nooteboom, Uhl-Bien and Arena) and hy-
pothetical leadership development in Savonlinnan Taidelukio (Kira Boesen-
Muhonen, 2020)
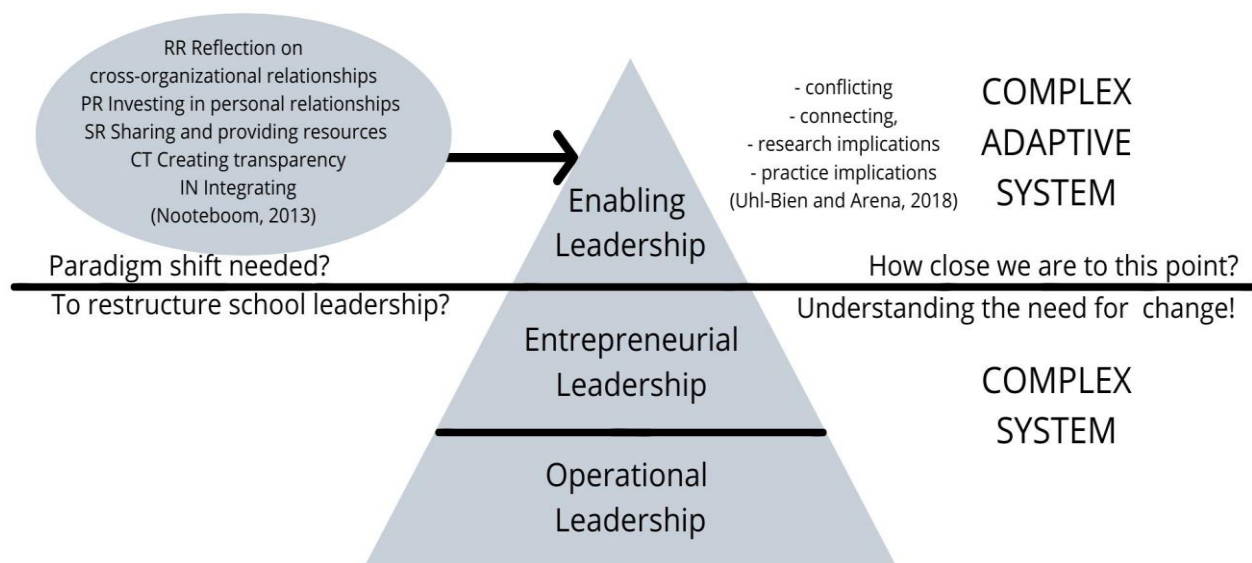
Intentional, systematic, and investigative conflicting, connecting, and uti-
lizing of research and practice implications requires time and space. To enable
that, do we need a paradigm shift which would have to restructure school lead-
ership -thinking nationally?

No matter how much we would want to enable adaptivity and creativity,
we can only reach a certain point in them, in the existing structures. After that,
we probably need such a paradigm shift which would lead to reorganising the
whole thinking of school leadership and organisational structure. Changing a
complex system to a complex adaptive system in a way how Uhl-Bien and Arena
(2018) describes them and how Nooteboom (2013) defines complexity leadership
(see figure 5), requires such resources, which cannot be allocated for that purpose
in existing structures. Not on such scale that would support the shift fully, inten-
tionally, and purposefully to a complex adaptive system. If it was so, the leader
should first have creative adaptive space for her/his own work, which would be,
for example, implementing four ways to build and enable adaptive space (Uhl-
Bien and Arena, 2018) and to nourish and fuel creativity among the whole staff.
Who, or which instance is the one that will enable this to begin with? Now the

leaders are tied to certain structures – and the question is, what´s wrong with them since we do represent the world's leading educational expertise here in Finland? Maybe nothing, at least for now. Or, maybe the whole system, if the complexity keeps increasing enough.

If you have ever travelled by airplane, you know that during take-off the flight attendant demonstrates how the oxygen masks should be put on, in case of an emergency. What the attendant points out however is, that those passengers travelling with small children should always first put on the mask on themselves and after that help their children. This is, of course, a very simple example, but if the instructions were not pointed out, very many of us would by instinct help the children first. After we are instructed though, we do well understand why we should act in that order.

6.3   Attributional complexity and cognitive complex ability in Savonlinnan Taidelukio

The participants gave diverse examples of such behaviour which builds trust and supports shared values, for example empathy, transparency, listening, trust, and equality. On the other hand, the qualities which were wished more, were quite much the same. This seems to support the idea, that attributional complexity in leadership is highly valued among the staff. It also seems to be in connection to earlier mentioned *Taikkarihenki,* because that is described to strengthen the wordless agreement, that nobody is neglected/everybody is kept included. Towards this, the understanding of attributional complexity is something what is wished to be part of the whole organisation.

Cognitive complex ability in Savonlinnan Taidelukio seems to be a larger whole to be handled. It seems that cognitive complex ability includes everything. After implementing attributional complexity, which is here understood more as social connecting and understanding, there is everything else. For example: network, politics, finance, recruiting, and public relations. It seems that if there wasn´t cognitive complex ability, it would be quite impossible to lead the whole.

Again, the biggest challenge seems be lack of time. There are all the qualities needed, but if people have to work in a hurry, especially the leader, and if the workload and complexity are increasing, where does it lead us?

7   REFLECTION

When I started, I was especially eager to find concrete examples of leadership practices which help to cope with everyday complexity. Lots of good leadership practices were named and recognized, not to mention Taikkarihenki, which strengthens the identity of the whole community, but something was missing.

The study, as a whole, backs up the theory that the complexity is increasing. I recognized two types of complexity, 1 (one) positive, which energizes and strengthens professional identity, and 2 (two) negative, which eats energy and weakens professional identity. It also backs up the idea, that increasing negative type 2 (two) complexity adds up to teachers´ workload and as a result of that, multiplies the workload of the leader.

In the end, I woke up to notice that not any single practice or issue alone can help to adapt in complexity, because the phenomenon is a whole by itself, with rich interconnectivity, and that´s how we must try to understand it. However, single good practices and issues all together keep everything running well, so the question left is, do we need a paradigm shift, which would lead us to an enabling leadership culture outlined in figure 5? And if we do, when and how?

7.1.1   COVID-19 pandemic – closing the circle

During the last weeks, that I have been working with this study, the world has run into COVID-19 pandemic crisis. It is only couple of months ago that we had absolutely no idea what was coming just behind the corner. From my study notes, I found thoughts of examples about strongly increasing complexity, caused by huge unpredictable changes that are impossible to prepare for in any way. I had in mind threats like climate catastrophe or internet crashing. These kinds of threats have been in discussions, but then again no one knows what will happen if any of them, or something else what we have not even imagined, comes true.

Well, it is happening right now! Here we are, in the middle of such crises, in reality. And they say, there is more to come. When this all started, people everywhere had to adapt to the situation promptly, and now it is interesting to see how things proceed in global, national, organisational, and individual levels. Suddenly we have lots of "experts" in a situation where actually nobody knows where this all is leading to. This is complex. There is very much rich interconnectivity between everything in all levels, and we are all "in the same boat".

Also, Savonlinnan Taidelukio, as all the other schools and organisations have had to reorganise their functions to meet this new situation. All schools adapted in few days from classroom teaching to distance teaching through diverse internet connections. The existing situation really challenged everybody. In Savonlinnan Taidelukio, as far as I know, adaptability and creativity has been strong among the whole staff. Everybody acted fast and lots of acute help was offered inside the school. Information seemed to work clearly and on time. There seems to be a strong will to make everything work, and it seems that the theory of answering complexity with complexity (Uhl-Bien, 2017) is actually implemented here.

What is quite interesting, is that it seems that I have come a full circle and I am back to where I started from: the problematic and stressful thinking that we are all the time trying to get over something, trying to get "back to normal". COVID-19 is now doing it for real, or is it? Should we learn that this exact moment, like any other time, is just the "new normal", and we can´t get back to something which we consider "normal". What is it anyway? The situation is on right now, so only time will tell what kind of scars COVID-19 will leave in Savonlinnan Taidelukio.

7.1.2   Taikkarihenki

Last, but not least, I want to remind the readers of this study about *Taikkarihenki*, which means something like "the spirit of Taikkari (Savonlinnan Taidelukio)". It certainly has helped handle the existing COVIC19 -situation too. *Taikkarihenki* seems to be a phenomenon inside an organisation and would be worthy

of its own research. It is explained that *Taikkarihenki* has long roots; all the way back to 1967 through the attitude of the very first principal of the school. It is something that everybody, the faculty and the students, are proud of and something that is owned by all. It is carried on collectively and it strengthens professional identity, occupational respect, togetherness among the students and the staff, and the overall image of the school.

Taikkarihenki is complex. It would be difficult to create something like that artificially, since it has no hierarchy and it certainly, even though could be also used negatively against something or somebody, has several strong benefits. This whole would be difficult to reach through any given model, and a challenge if wanted to be measured. *Taikkarihenki* would be an interesting research topic.

7.1.3   Further research and implementing the study

I have a wish that I will get an opportunity to present my study in Savonlinnan Taidelukio for those who are interested. I also think that there are some interesting findings to those who are interested in complexity and complexity leadership thinking, not only in Savonlinnan Taidelukio, but elsewhere too.

I strongly hope that this research will inspire some others to do further studies around these subjects. Especially, I hope someone will one day research *Taikkarihenki* as a phenomenon.

REFERENCES

<u>Journal articles with doi:</u>

Clarke, N. (2013). Model of complexity leadership development. Human Resource Development International, 16(2), pp. 135-150.

Crane, B. (2018). Developing Employees' Mental Complexity: Transformational Leadership as a Catalyst in Employee Development. Human Re-source Development Review, 17(3), pp. 234-257.

Dinh, J. E. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. The Leadership Quarterly, 25(1), pp. 36-62**.**

Duin, A.H., and Baer, L.L. (2010). Shared leadership for a green, global, and Google world, Planning for higher education, ISSN 0736-0983, 39(1): 30-38

Sun, P. Y. T. (2012). The Importance of Attributional Complexity for Transformational Leadership Studies. Journal of Management Studies, 49(6), pp. 1001-1022.Bush, T. (2012). International perspectives on leadership development: making a difference. *Professional Development in Education 38*, 663-678. doi:10.1080/19415257.2012.660701

Sweetman, D. (2010). Exploring the adaptive function in complexity leadership theory: An examination of shared leadership and collective creativity in innovation networks.

Marion, R. (2007). Introduction to the Special Issue on Leadership and Complexity. The Leadership Quarterly, 18(4), pp. 293-296.

Nooteboom, S. G. (2013). Strategies of Complexity Leadership in Governance Systems. International Review of Public Administration, 18(1), pp. 25-40

Snowden, D. (2005). STRIKING THE RIGHT BALANCE WITH KM AND RISK. Knowledge Management Review, 8(1), pp. 24-27.

Turner, N. (2002). Transformational Leadership and Moral Reasoning. Journal of Applied Psychology, 87(2), pp. 304-311.

Uhl-Bien, M. (2017). Complexity leadership: Enabling people and organizations for adaptability: Enabling people and organizations for adaptability. Organizational Dynamics, 46(1), pp. 9-20.

Uhl-Bien, M. & Arena, M. (2017). Complexity leadership: Enabling people and organizations for adaptability. Organizational Dynamics, 46(1), p. 9. doi:10.1016/j.orgdyn. 2016.12.001

Uhl-Bien, M. (2009). Complexity leadership in bureaucratic forms of organizing: A meso model. The Leadership Quarterly, 20(4), pp. 631-650.

Uhl-Bien, M. (2007). Complexity Leadership Theory: Shifting leadership from the industrial age to the knowledge era. The Leadership Quarterly, 18(4), pp. 298-318.

Urry, J. (2006). Complexity. Theory, Culture & Society, 23(2-3), pp. 111-115.Gentry, W. A., Eckert, R. H., Munusamy, V. P., Stawiski, S. A., & Martin, J. L. (2014). The needs of participants in Leadership development programs: A qualitative and quantitative cross-country investigation. Journal of Leadership & Organizational Studies, 21, 83-101. doi: 10.1177/1548051813483832

Uhl-Bien, M. & Arena, M. (2018). Leadership for organizational adaptability: A theoretical synthesis and integrative framework. The Leadership Quarterly, 29(1), pp. 89-104. doi:10.1016/j.leaqua.2017.12.009

Wilson, M. (2009). Complexity theory. Whitireia Nursing Journal. ISSN 1173-1966.16:18-24.

Journal article without doi:

Arena, M. (2016). Complexity Leadership Theory: Shifting from Human Capital to Social Capital. People and Strategy, 39(2), pp. 22-27.

Explaining the Difference Between Policy-Based Evidence and Evidence-Based Policy: A Nexus Analysis Approach to Mobilities and Migration: Melina Aarnikoivu1, Sirpa Korhonen, Driss Habti and David M. Hoff-man Dinh, J. E. (2014). Leadership theory and research in the new mil-lennium: Current theoretical trends and changing perspectives. The Leadership Quarterly, 25(1), pp. 36-62.

Geer-Frazier, B. (2014). Complexity leadership generates innovation, learning, and adaptation of the organization. (Theoretical)(Report).

A book:

Corbin, J., & Strauss, A. (2008). Basics of qualitative research (3rd ed.): Techniques and procedures for developing grounded theory. Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781452230153

Morrison, K. (2002). School leadership and complexity theory. London; New York: Routledge/Falmer.Spillane, J. P. (2006). Distributed leadership. San Francisco: Jossey –Bass.Spillane, J. P. (2006). Distributed leadership. San Francisco: Jossey –Bass.

Simons, H. (2009). Case study research in practice. Los Angeles; London: SAGE.

Yin, R. K. (2014). Case study research: Design and methods (5th edition.). Los Angeles: SAGE.

Article in a book:

Thomas, G. & Myers, K. (2015). The anatomy of the case study. Los Angeles: SAGE.

Offermann L. R., & Scuderi N. F. (2007). Sharing leadership: who, what, when and why. In B. Shamir, P. Pillai, M. C. Bligh, & M. Uhl-Bien (Eds.) (pp. 51–91). Follower-centered perspectives on leadership. A tribute to the memory of James R Meindl. Greenwich: Information Age Publishing.
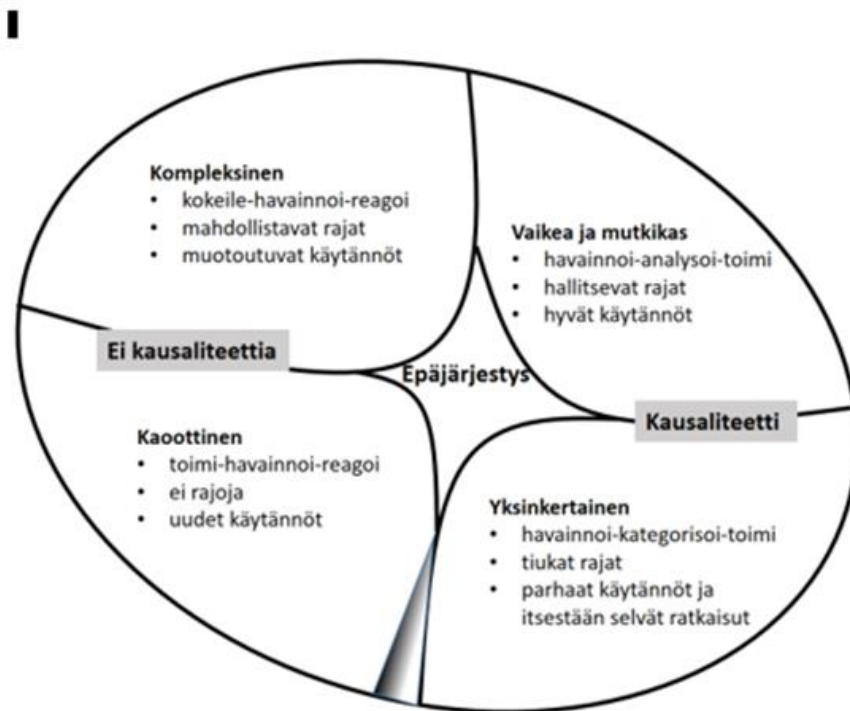
An internet based source

Cynefin® framework introduction, Dave Snowden, retrieved from http://cognitive-edge.com/videos/cynefin-framework-introduction/

Understanding Internal and External Validity, How These Concepts Are Applied in Research, Arlin Cuncic, Medically reviewed by Steven Gans, MD, Updated on January 26, 2020, retrieved from https://www.verywellmind.com/internal-and-external-validity-4584479

Knowledge Base written by Prof William M.K. Trochim. Changes and additions by Conjoint.ly. This page was last modified on 13 Mar 2020. © 2020, Conjoint.ly, Sydney, Australia. ABN 56 616 169 021, retrieved from https://conjointly.com/kb/construct-validity/

APPENDICES

Appendix 1 Interview questions

Kompleksinen
- kokeile-havainnoi-reagoi
- mahdollistavat rajat
- muotoutuvat käytännöt

Vaikea ja mutkikas
- havainnoi-analysoi-toimi
- hallitsevat rajat
- hyvät käytännöt

Ei kausaliteettia

Epäjärjestys

Kausaliteetti

Kaoottinen
- toimi-havainnoi-reagoi
- ei rajoja
- uudet käytännöt

Yksinkertainen
- havainnoi-kategorisoi-toimi
- tiukat rajat
- parhaat käytännöt ja itsestään selvät ratkaisut

Työvuodet Savonlinnan Taidelukiossa:

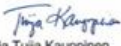alle 5 v _____ 5-10 v _____ yli 10 v _____

Cynefin –mallissa kompleksinen on yksinkertaisen vastakohta ja vaikean/mutkikkaan ja kaaoksen välissä:

1. Koetko/tunnetko työarjessasi kompleksisuutta?

Olettaen, että koulutus, kuten maailma muutoinkin, muuttuu koko ajan kompleksisemmaksi ja olettaen, että kompleksisuuden voisi kokea "normaalina tilana":

1. Uskotko, että johtamiskäytännöillä ja -malleilla voidaan tukea kompleksisuuden sietämistä ja käsittelemistä?
2. Jos uskot, niin voivatko jotkin noista käytännöistä muuttaa kokemuksen luovaksi tilaksi ja innostukseksi? (Flow?)

67

Appendix 2 Research permit for Savonlinnan Taidelukio

Left document:

SAVONLINNAN KAUPUNKI — PÄÄTÖS
Sivistystoimiala

Sivistystoimenjohtaja — 15.5.2018

Yleinen päätös
21 §
Tutkimuslupahakemus pro gradu -tutkielmaan koskien kompleksisuutta ja sen

Selostus:
Jyväskylän yliopiston psykologian ja kasvatustieteider opiskelija Kira Boesen-Muhonen on lähettänyt seuraa lupahakemuksen:

"Anon tutkimuslupaa lukuvuodelle 2018-2019, Savon lukiossa.

Tutkin kompleksisuutta ja sen johtamista. Pyrin löytär johtamiskäytänteitä, jotka tukevat yhteisön jäseniä ko den sietämisessä, ja sen mahdollisuutta muuttua luov

Tutkimuksessani haastattelen koulun rehtoria ja noin jaa. Lisäksi teen kyselyn koulun oppilaille.

Oppilaille tehtävään kyselyyn saavat osallistua kaikki Alaikäisiltä osallistujilta pyydän vanhempien suostum massa.

Tutkimusmateriaalin kerään syyslukukaudella 2018, j analysoin materiaaliin osaksi pro gradu tutkielmaani J opistolle (psykologian ja kasvatustieteiden laitos, Mas Education Leadership). Työn on tarkoitus valmistua ki Graduohjaajani toimii PhD David Hoffman, Finnish In Educational Reaserch."

Toimivalta:
Hallintosääntö luku 11 § 75

Valmistelu: toimistosihteeri Leena Muhonen, p. 044 4

Päätös:
Päätän myöntää Jyväskylän yliopiston, psykologian ja kasvatustieteiden laitoksen opiskelija Kira Boesen-Mu tutkimusluvan pro gradu -tutkielmaa varten. Boesen-M kompleksisuutta ja sen johtamista pyrkien löytämään johtamiskäytänteitä, jotka tukevat yhteisön jäseniä kompleksisuuden sietämisessä, ja sen mahdollisuutta luovaksi tilaksi.

Tutkimuksen tekijän on huolehdittava, että vastaajien turvataan ja aineistoa käsiteltäessä otetaan huomioon tietosuojaa koskevat määräykset.

Tiedoksi:
Kira Boesen-Muhonen, kira.boesen@gmail.com

Right document:

SAVONLINNAN KAUPUNKI — PÄÄTÖS
Sivistystoimiala

Sivistystoimenjohtaja — 15.5.2018

Muutoksenhakuohje: liitteenä

vs. sivistystoimenjohtaja Tuija Kauppinen

Appendix 2 Research permit - participants

UNIVERSITY OF JYVÄSKYLÄ

FACULTY OF EDUCATION
AND PSYCHOLOGY

RESEARCH PERMIT

I am Kira Boesen-Muhonen. I am working on my Master's thesis in Educational Leadership. In my research, I investigate the experience of and managing complexity in working life by teacher's in an upper secondary school.

This research aims to helps recognize and meet complexity, and find leadership practices that help to minimize unnecessary chaos and even ensure creative space.

The supervisor of my thesis is Docent, PhD David M. Hoffman (senior researcher in Finnish Institute for Educational Research, JYU, e-mail: david.hoffman@jyu.fi, tel. +358 40 805 4247 (voicemail only))

Data is collected by interviewing teachers in an upper secondary school with an emphasis in music and visual arts. The data is voice recorded.

Participation in the research is voluntary, and consent can be withdrawn later at any point of the research process. Research data is handled and used in a confidential manner. Research data is handled and presented in a way that research participants' personal identity cannot be revealed. Research data is handled according to the data management principles of the University of Jyväskylä.

I gladly provide you further information about the research; please feel free to contact me via e-mail: kiboesen@student.jyu.fi or phone: +358 50 5265163

I hereby give my consent to my participation in the above mentioned research

☐ yes
☐ no

_____   _____
Date and place   Signature and clarification of name

Kommentti [ST1]: It practically means repeating the name with capital letters