

**Dynamic Capabilities in Times of Educational Change:
The Viewpoint of School Leadership**

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APPRECIATION

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LIST OF ACRONYMS AND ABBREVIATIONS

DC: Dynamic Capabilities

PISA: Programme for International Student Assessment

RBV: Resource Based View

UNESCO: United Nations Educational, Scientific and Cultural Organization

FNAE: Finnish National Agency for Education

OECD: Organization for Economic Co-operation and Development

FNBE: Finnish National Board of Education

ABSTRACT

Nowadays educational organizations experience rapid changes, due to globalization, technological advancement, changing knowledge and competencies, and increasing social, political and cultural complexity. Consequently, these issues pose capability challenges to their leadership. In the rapidly changing educational circumstances, educational leadership needs to develop dynamic capabilities by integrating and reconfiguring their internal and external resources and competencies. However, few research have been carried out to comprehend the development of dynamic capabilities in educational organizations. Therefore, the aim of this study was to explore how educational organizations develop dynamic capabilities in times of educational change to meet capability challenges in rapidly changing circumstances.

The qualitative case study took place in Finland and focused on participants that hold different kinds of leadership positions in Finnish comprehensive schools. Convenience sampling was used to select participants for the study, and an open-ended questionnaire, with five open-ended questions, was developed to explore school leadership's viewpoints on developing dynamic capabilities in their schools in order to deal with the rapid educational change. Qualitative content analysis was used to analyze the data.

The results of the study showed that the particular Finnish school leadership experienced capability challenges in reappraising resources, integrating technologies into instruction, reconfiguring teaching and learning practices, and, more importantly, motivating teachers to take part in the changing process. This study also found that the school leadership tried to develop dynamic capabilities by reconfiguring their existing resources and competencies to cope with these capability challenges.

Keywords: Dynamic Capabilities, Educational Change, Leadership, Finnish Schools

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1 INTRODUCTION

The focus of my study is to understand how dynamic capabilities are developed and exercised by educational organizations as well as their leadership in order to cope with changing educational circumstances. The concept of dynamic capabilities has drawn increased attention of the academics as well as the practitioners in recent years (Kay, 2010). The term explains how an organization deals with rapid change by combining, reconfiguring and restructuring its internal and external organizational skills, resources and functional competencies in changing circumstances (Eisenhardt & Martin, 2000; Teece, Pisano & Shuen, 1997; Zahra, Sapienza & Davidsson, 2006; Zollo & Winter, 2002). Dynamic capabilities differ from ordinary capabilities by being concerned with change, and these capabilities constantly modify and develop ordinary capabilities to enable the organization to deal with change (Winter, 2003). On the other hand, ordinary capabilities are those capabilities that an organization uses to perform its daily activities (Winter, 2003; Pavlu & Ei Sawy, 2011). Teece et al. (1997) argue that ordinary capabilities are necessary, but not sufficient to deal with change. Therefore, dynamic capabilities are required for being successful in changing circumstances. A significant number of scholars consider dynamic capabilities as organizational abilities that enable the organization facing rapidly changing circumstances to generate new resources or renew its existing resources in order to cope with change (Eisenhardt & Martin, 2000; Helfat & Peteraf, 2003; Zollo & Winter, 2002). They argue that dynamic capabilities enable an organization to successfully cope with rapid change (Helfat et al., 2007; Teece, 2007; Zollo & Winter, 2002).

On the other hand, some scholars refer dynamic capabilities to people's, especially leaders', ability to identify new strategic opportunities, to arrange required organizational resources, to continuously adapt in areas, such as managing resources, and to foster new ideas and innovation (Augier & Teece 2008; Teece et al.; 1997; Zahra et al., 2006). They consider leadership to be a driving force to enhance organizational capability in times of change (Augier & Teece 2008; Eisenhardt & Martin, 2000; Fullan, Cuttress & Kilcher, 2005). Leadership

always plays a crucial role to create such conditions in the organization that make the organization and its members capable of responding effectively to challenges in changing circumstances (Hallinger & Heck, 2010). Hence, the role and competencies of leadership are considered to be the key to enhancing the capability of the organizations, since it enables the organization to stay alive and thrive under changing circumstances (Levin & Riffel, 1998). In this study, exercising and developing dynamic capabilities will be investigated from leadership perspective.

Change is inevitable for any organization. Organizational change is considered to be the procedures of reviewing and modifying its existing vision, structures, strategies, operational techniques and culture in successfully dealing with change happening within and outside of the organization (Fossum, 1989; Hargreaves, 2004). Being concerned with change, dynamic capabilities approach tends to investigate how changes in the world effect in changes in organizations, and how organizations deal with change by reforming their current state and improving their capabilities (Augier & Teece, 2008; Jäppinen, 2017). Therefore, this approach has accounted for a considerable extent in the management literature and been used as a dominant theoretical framework in research works dealing with organizational change (Barreto, 2010; Piening, 2013).

However, although many studies have been conducted in private sector, especially in business sector, in order to identify, enable and manage dynamic capabilities in times of change and investigate their impacts on organizational performance (Augier & Teece, 2008; Eisenhardt & Martin, 2000; Helfat et al., 2007; Helfat & Peteraf, 2009; Teece, 2009; Teece et al., 1997; Wang & Ahmed, 2007; Zahra et al., 2006; Zollo & Winter, 2002), only a few studies have been conducted in public sector organizations (Pablo, Reay, Dewald & Casebeer 2007; Piening, 2013), despite the fact that public organizations and their leaders have been facing more challenges than ever before due to different kinds of change (Fennell, 2005). In particular, few studies have been conducted in education sector, especially schools as public-sector organizations. This is the research gap that this study tries to fill, since likewise other organizations, educational organizations

also experience different kinds of fundamental and dramatic change due to internal (e.g. vision and mission, culture, style of leadership) and external (e.g. stakeholders, economy, technology, social and political complexity and resources) factors (Holbeche, 2006).

In this era of globalization, education has to respond to key challenges, such as changing demographics, multiculturalism, national and international competition, changing knowledge and curricula, new teaching and learning practices, changing roles and responsibilities, resource reduction, wide use of information technology in teaching and learning process, increasing political and social complexity and growing pluralism (Hargreaves, 1995). These challenges create the necessity of restructuring and re-examining the vision, mission, practices, structures and cultures of educational organizations (Kezar, 2011). In brief, understanding and adapting with rapid change in an unpredictably unstable world is a paramount challenge for educational change. It requires educational organizations and their members to develop capabilities through so-called dynamic capabilities (Fennell, 2005). Therefore, the role and competencies of the leadership have been considered to be crucial factors in supporting educational organizations and their members to cope with ever-changing circumstances (Fullan, 2001; Gill, 2002; Hallinger, 2003; Levin & Riffel, 1998).

Consequently, it is crucial to know how educational organizations cope with changing circumstances by developing their dynamic capabilities in times of change. Therefore, this study aims to explore how Finnish schools, as public-sector organizations, reconfigure and restructure their existing resources and capabilities in order to cope with changing educational circumstances. To carry out the study, three research questions have been formulated. The first research question focuses on finding out the capability challenges that Finnish school leadership faces in times of educational change. The second research question seeks to explore what kinds of initiatives are taken by the leadership to overcome the capability challenges in order to cope with educational change. Finally, the third research question focuses on leadership role and competencies to deal with challenges in times of educational change.

Finland is considered as a context of this study, since Finnish schools, as public-sector organizations, have lately been going through significant changes, namely more multicultural environment, financial compression and resource reduction, and greater service and efficiency demand (Sahlberg, 2011). Firstly, Finnish school environment is becoming increasingly multicultural. Until 1980s, Finland was regarded as ethnically and culturally homogeneous country. Since then, however, several factors have contributed to creating more ethnic and cultural variety in Finland. For instance, the increased numbers of refugees from Europe and other war affected countries outside Europe and labour-based immigration made this country more multicultural (Saukkonen & Pyykkönen, 2008). In addition, the outstanding Finnish education system with no tuition fees attracted international students to pursue their higher education in Finland and continue their career life here. These factors have been contributing to making the school environment in Finland more multicultural, and the growing cultural, linguistic and ethnic diversity is creating complex situation in Finnish schools, thus calling for a review of Finnish educational policy and practices (Kumpulainen & Lankinen, 2012; Sahlberg, 2011).

Secondly, the economic downturn in Finnish economy in recent years has posed a threat to resource allocation in Finnish schools. Due to recession, resources have been cut-off in Finnish educational organizations (Sahlberg, 2015). Consequently, the schools have been forced to reduce their educational expenditure. The fact that a great number of Finnish municipalities do not have sufficient resources to provide greater quality education for the students has resulted in increased inequality in students' performance (Kumpulainen & Lankinen, 2012).

Finally, Finnish education has grasped the attention of its international counterparts after holding the top rank in the Programme for International Student Assessment (PISA) results (Niemi, 2012). The outstanding performance of Finnish education has created greater efficiency demand internally and externally that leads them to continuously reviewing their educational policies and practices (Sahlberg, 2015). To cope with these changing conditions, Finnish

schools need to develop their dynamic capabilities, since educational organizations without constantly developing their capabilities may fail to meet the changing needs of the educational circumstances (Fullan, 2016).

It is expected that this study would contribute to developing the understanding of exercising and developing dynamic capabilities in the educational organization in times of change in order to deal with the changing circumstances effectively. It is a qualitative study, which aims to explore leadership experiences and views regarding dynamic capabilities while dealing with change. Qualitative research approach is used for this study as Bogdan and Biklen (2007) suggest adopting qualitative approach if a researcher intends to learn how schools go through and cope with change. Open-ended questionnaire is used to collect data for this study. For data analysis, qualitative content analysis is used as it helps to describe social events, change and people's reflection on change (Chadwick, Bahr & Albrecht, 1984). Therefore, this study explores the capability challenges that Finnish school leadership faces in times of educational change and how it copes with those capability challenges by developing dynamic capabilities.

This study consists of seven chapters. The first chapter discussed above gives an introduction of the research problem, research aim, research questions, research significance, data collection and data analysis methods. This is followed by Chapter two and three, focusing on related literature regarding dynamic capabilities, educational change and leadership. Chapter four provides further discussion on the research problem, whereas Chapter five offers more details on the implementation of the study, including the selection of the study participants, research approach, data collection and data analysis procedures, and ethical considerations. Next comes Chapter six, with analyses of the results. Finally, Chapter seven concludes the study with discussion, including the summary and examination of results, reliability of the study, generalizability, applicability and limitations of the study, implications of the findings as well as suggestions for further research.

2 DYNAMIC CAPABILITIES

Dynamic Capabilities (DC) view is the extension of Resource Based View (RBV) that puts more emphasis on revamping valuable resources for enabling organization to achieve higher organizational performance in the times of change (Barney, 1991). However, many scholars (Helfat & Peteraf, 2009; Teece, 2009; Teece et al., 1997; Wang & Ahmed, 2007; Zollo & Winter, 2002) argue that only accumulating resources is not sufficient for an organization to achieve the desired performance while dealing with change. Instead, there is a need for reconfiguring resources into dynamic capabilities (Chien & Tsai, 2012). Therefore, the key difference between Resource Based View and dynamic capabilities is that the former stresses resources accumulation (Barney, 1991), whereas the latter puts emphasis on the capability to constantly renew and reconfigure resources and competencies to cope with rapidly changing circumstances (Pavlou & El Sawy, 2011; Teece et al., 1997). Teece et al. (1997) argue that in order to be successful in adapting to change, an organization requires timely and rapid responses coupled with leadership capabilities to effectively coordinate, integrate and reconfigure internal and external resources and competences. In the following section, the concepts and significance of dynamic capabilities will be discussed.

2.1 Concepts and Significance

The concept of dynamic capabilities has sparked interest among scholars, especially in the management discipline (Kay, 2010). The term 'dynamic' defines the capability to renew competencies required for coping with change, and the term 'capability' stresses the role of leadership in coordination, integration and reconfiguration of internal and external organizational resources in regard to changing circumstances (Teece et al., 1997). Many scholars define dynamic capabilities in many ways in the existing literature (Teece et al., 1997; Eisenhardt & Martin, 2000; Zollo & Winter, 2002; Helfat & Peteraf, 2003; Zahra et al., 2006). Since it is still a

new concept, there are various arguments and issues related to this concept discussed in the literature. However, in the beginning of this section, there will be a discussion about the key definitions of dynamic capabilities that will be followed by the critical arguments regarding its significance in developing the organizational capability to cope with rapid change. In Table 1, the key definitions of dynamic capabilities are described.

TABLE 1 Key Definitions of Dynamic Capabilities

Scholar	Definition	Category	Sub-category
Teece, Pisano and Shuen (1997)	The firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.	Internal and external competencies re-configuration	Learning Internal and external knowledge integration, Sensing and seizing opportunities Transforming structure and practices
Eisenhardt and Martin (2000)	DC is organizational process by which an organization reassembles and combines its resources to meet challenges in the rapidly changing situation	Resource re-configuration	Alliancing Developing strategies and practices
Helfat and Peteraf (2003)	Dynamic capabilities involve adaptation and change, because they build, integrate, or reconfigure other resources and capabilities.	Resource and competence reconfiguration	Learning Developing practices Efficient resource allocation Strategic planning
Zollo and Winter (2002)	Dynamic capabilities are those capabilities that operate to develop and/ or revamp ordinary capabilities.	Competencies reconfiguration	Learning and knowledge sharing
Zahra and George (2002)	Dynamic capabilities are essentially change-oriented capabilities that help firms redeploy and reconfigure their resource base to meet evolving customer demands and competitor strategies.	Resource re-configuration	Developing absorptive capability

Zahra, Sapienza and Davidsson (2006)	The abilities to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principal decision maker(s)	Resource and practice re-configuration	Integrating resources and practices
Helfat et al. (2007)	The capacity of an organization to purposefully create, extend, or modify its resource base	Resource re-configuration	Learning Developing strategies and practices, Systematic resource allocation Strategic planning
Wang and Ahmed (2007)	DCs are the 'behavioral orientation' of an organization to continuously reconfigure and improve its resources and ordinary capabilities in order to respond to the changing circumstances.	Resource and competencies reconfiguration	Developing absorptive, adaptive and innovative capability

While analyzing Table 1, we can see that most commonly dynamic capabilities have been defined as the organizational ability (Teece et al., 1997; Winter, 2003; Zahra et al., 2006; Helfat et al., 2007), but also as processes and practices (Zollo & Winter, 2002; Wang & Ahmed, 2007) that enable an organization to cope with changing circumstances by integrating, renewing and reconfiguring its resources and competencies (Helfat & Peteraf, 2003).

Teece et al. (1997) developed the dynamic capabilities approach with the aim of finding a coherent framework, which not only can incorporate existing conceptual and practical knowledge but also provide guidelines for further development of knowledge. In this framework, they argued that the ability of an organization to cope with change effectively depends on its leadership and organizational processes designed by its existing resources and organizational practices. By leadership and organizational processes, Teece et al. (1997) refer to the way of performing responsibilities in the organization and developing its current practices and learning so as to cope with change. In brief, Teece et al., in their framework, pointed out that dynamic capabilities approach emphasizes exploiting internal and external organizational resources and competencies, developing leadership capabilities and integrating 'difficult-to-imitate' organizational functional and technological competencies to meet the changing demands.

Teece (2009) has later identified three components of dynamic capabilities such as *sensing, seizing, and transforming capability*. These capabilities are essential for an organization to survive in changing circumstances (Teece, 2009). He refers sensing capability to the ability to identify and grab possible opportunities in internal and external environment to encounter challenges in times of change (Pavlou & El Sawy, 2011). Teece (2009) states that the ability to identify and grab opportunities depends upon the individual's capabilities, particularly, upon leadership capabilities. In order to sense opportunities, the leadership needs to carefully analyze the change, consider intended target groups' opinion and explore the environment carefully. Therefore, sensing capability requires leadership to have vision and deeper understanding of change. On the other hand, seizing capability includes developing appropriate strategies and practices, and obtaining both financial and human resources (Teece, 2009). Teece (2009) states that the ability to sense and seize opportunities requires specific knowledge and skills. Therefore, organizations should invest resources in creating and disseminating new knowledge and competencies to develop dynamic capabilities. Finally, transforming capability refers to the ability to generate, combine and reconfigure structure and resources to cope with change (Teece, 2009). As regards developing transforming capabilities, Teece (2009) puts emphasis on top management's leadership capabilities as well as the decentralization of organizational structure.

On the other hand, Eisenhardt and Martin (2000) describe dynamic capabilities as specific and identifiable organizational processes by which an organization and its leadership use their resources to encounter new challenges in rapidly changing environments. They argue that dynamic capabilities are the driving force to create, integrate and reconfigure resources within the organization to make it able to deal with changing demands effectively. They consider that alliancing, product development and strategic decision-making are important dynamic capabilities of an organization. In the field of education, these capabilities mean building educational collaboration (Cox-Petersen, 2011), developing teaching and learning practices (Fullan, 2015) and setting up appropriate strategies for coping with change (Gill, 2002).

Luo (2000) introduces three important components of dynamic capabilities, such as '*capability possession*', '*capability deployment*', and '*capability upgrading*'. He argues that an organization must have distinctive resources and capabilities that can be utilized in developing subsequent strategies and resources so as to develop new capabilities required for changing circumstances. Luo (2000) further argues that having distinctive resources is not sufficient for an organization to cope with change, it must have the ability to effectively allocate and exploit these capabilities according to changing demands (Liu & Hsu, 2011). He refers this capability to the '*capability deployment*' of an organization. He also argues that along with capability possession and capability deployment, an organization also requires the ability and commitment to develop new bundles of distinctive resources and capabilities in order to cope with change and at the same time reconfigure existing capabilities in changing circumstances (Liu & Hsu (2011)).

In contrast, Zollo and Winter (2002, p. 340) define dynamic capability as a "learned and stable pattern of collective activity" that helps an organization to seek for enhanced effectiveness by systematically generating and adapting its functional practices. They could not fully agree with the definition of Teece et al. (1997) where they posit that dynamic capabilities are exercised to encounter rapidly changing circumstances. Zollo and Winter (2002) argue that dynamic capabilities can exist in an environment where the changing rate is comparatively low despite acknowledging that it has more significance in changing circumstances (Zahra et al., 2006). They presume a direct relationship between dynamic capabilities and organizational performance. They point out that dynamic capabilities make attempts to initiate innovative changes to the resource base which is more likely to result in higher organizational performance in times of change. Zollo and Winter (2002) posit that dynamic capabilities engage organizations in continuous learning and promote knowledge sharing that helps organizations respond accordingly to the changing demands. Barreto (2010) argues that dynamic capabilities enable the organization to take necessary steps to meet changing challenges in a timely manner as they are continuously involved in ordinary capability development and systematic problem solving (Zollo & Winter, 2002).

Zahra et al. (2006) put leadership at the heart of the process in their definition by which organizations develop dynamic capabilities to cope with change. They posit that the development of dynamic capabilities depends on the visions and integration ability of the leadership to implement change. They argue that the positive impact of dynamic capabilities on organizational performance depends on the leadership ability to understand the need of change and its proper knowledge about change. If the leadership of an organization is unable to determine the need for dynamic capabilities or make wrong cause-effect assumptions, then it may put negative impact on organizational performance while dealing with change (Zahra et al., 2006). However, Zahra et al. (2006) further argue that dynamic capabilities may enable an organization to develop vision and strategies in an effective way; however, it does not ensure organizational success or survival in times of change. They also claim that the relationship between dynamic capabilities and organizational performance is rather indirect through the quality of substantive capabilities - an ability to develop new practices - modified by dynamic capabilities. Similarly, Zott (2003) also argues that dynamic capabilities cannot directly be linked to organizational performance; instead, dynamic capabilities may influence performance through modifying an organization's resources and practices.

Wang and Ahmed (2007) identify three separate aspects of dynamic capabilities, such as *adaptive*, *absorptive* and *innovative capability*. Adaptive capability emphasizes an organization's ability to adapt to changing circumstances by the flexibility of resources and the development of resources and capabilities. Hence, organizations with high levels of adaptive capability are argued to develop dynamic capabilities (Wang & Ahmed, 2007). On the other hand, absorptive capability refers to the organization's processes by which the organization gathers new knowledge from external sources, integrates it with existing internal knowledge, and uses it purposefully to develop dynamic capabilities of the organization (Zahra & George, 2002). Wang and Ahmed (2007) argue that the organization that exercises absorptive capability demonstrates stronger ability of learning from others, integrating external information and transforming it into

organization-embedded knowledge. Lane, Salk and Kyles (2001) have discovered absorptive capability as a significant element of dynamic capabilities that play vital role in organizational learning and performance improvement in times of change. Finally, innovative capability is defined as organizational ability to transform knowledge and ideas into action to produce new products or services. This capability connects the organization's internal innovativeness with the purpose of enhancing the effectiveness of the organization. Teece (2009) argues that innovation does not necessarily mean producing new product or practice only, but also reinventing organizational process and practices. Therefore, it is argued that an organization having innovative capability is likely to combine its key capabilities and resources as well as develop innovative ways to deal with change (Wang & Ahmed, 2007; Lawson & Samson, 2001).

Wang and Ahmed (2007), in their study, argue that dynamic capabilities are not just organizational process; rather, these qualities are embedded in organizational process. According to them, processes are transferable or imitable within or across the organization, but capabilities are not, because they are developed over time through developing knowledge and competencies of individuals and groups. The authors also posit that dynamic capabilities are more likely to improve organizational performance if other mediating capabilities are developed in order to achieve desired organizational performance in times of change.

It is perceived from the above discussion that dynamic capabilities are crucial for enhancing organizational performance in times of change as these capabilities enable organizations to improve their existing operational practices to meet the changing demands (Helfat et al., 2007; Wang & Ahmed, 2007; Zahra et al., 2006; Hung, Yang, Lien, MacLean and Kuo, 2010). Therefore, in the following section, the contributing factors of developing dynamic capabilities will be discussed.

2.2 Developing Dynamic Capabilities

Developing dynamic capabilities in order to cope with change requires organization to integrate and reconfigure its practices, resources and competencies (Eisenhardt & Martin, 2000; Teece et al., 1997; Zahra et al., 2006). These organizational and strategic processes help managing and developing new resources and competencies according to the need of the organization in times of change (Pavlou & El Sawy, 2011). The development of dynamic capabilities is not a result of a single factor rather the combination of several contributing factors.

Teece et al. (1997) in their framework identify three crucial roles of organizational and leadership process, such as *coordination/integration*, *learning* and *re-configuration*, in developing dynamic capabilities. They assert that integration and coordination are crucial for developing dynamic capabilities, because these enable an organization to develop its dynamic capabilities to reconfigure existing practices according to changing demands (Zahra et al., 2006). By integration, an organization incorporates individual's knowledge into group's new operational capabilities (Teece et al., 1997). Zahra et al. (2006) argue that developing dynamic capabilities to increase organizational efficiency in times of change requires an organization and its leadership to possess highly developed integration skills, whereas coordination is the ability of an organization to organize and distribute responsibilities, resources, and activities in the new operational capabilities (Pavlou & El Sawy, 2011; Teece et al., 1997).

Teece et al. (1997) argue that effective responses to change demand effective integration and coordination of organizational internal and external resources and practices. Effective integration and coordination of internal and external knowledge help the organization to develop an effective way to cope with changing circumstances (Tripsas, 1997; Tseng & Lee 2014). Internal integration and coordination involve cross-functional team and teamwork in order to develop appropriate strategies to encounter change (Pavlou & El Sawy, 2011). Daniel and Wilson (2003) argue that an organization needs to ensure the participation of cross-functional teams that can bring different expertise sources together and support capability building (Eisenhardt & Martin, 2000).

On the other hand, external integration and coordination include networking, collaboration, and relationships with other organizations and different stakeholders (Eisenhardt & Martin, 2000). Networking and collaboration are crucial for developing dynamic capabilities as these support an organization working together with other organizations to develop and share strategies and practices (Vassolo & Anand, 2008). As networking and collaboration are a set of interconnected relationships among other organizations, members of the organizations are likely to share their knowledge and expertise based on mutual trust and commitment. In this regard, leadership with effective external communication skills is required to establish networking, collaboration and relationships so as to develop dynamic capabilities (Eisenhardt & Martin, 2000).

Learning is another essential factor that facilitates developing dynamic capabilities, since it enables individuals as well as organizations to perform better when it upgrades individual and organizational skills (Eisenhardt & Martin, 2000; Teece et al., 1997). Learning enables organizations to refurbish existing functional capabilities with new knowledge (Pavlou & El Sawy, 2011; Zahra & George, 2002). It involves acquiring, assimilating, transforming, and exploiting knowledge (Pavlou & El Sawy, 2011). Zollo and Winter (2002) suggest three learning mechanisms in developing dynamic capabilities of organizations. These are experience gathering through organizational practices, knowledge sharing through collective discussions, and knowledge codification through the creation of written documents. They argue that all three of them are crucial in developing dynamic capabilities, and an organization needs to accumulate experiences as well as articulate and codify knowledge since these learning mechanisms can develop an organization's practices and processes in times of change (Zollo & Winter, 2002). Collective focus on learning and knowledge sharing is also as important, since the enhancements of organizational competence as well as performance depend on it. Organizational ability to promote knowledge creating and sharing is considered as one crucial example of dynamic capabilities that can be achieved through collective and systematic learning (Daniel & Wilson, 2003; Ei-

senhardt & Martin, 2000; Winter, 2003). Tseng and Lee (2014) argue that an organization's ability to promote knowledge sharing among its employees increases its dynamic capabilities and organizational performance. Hung et al. (2010) found that the organizational process alignment and organizational learning culture significantly contribute to organizational dynamic capabilities development and performance improvement.

The third organizational and leadership role identified by Teece et al. (1997) is reconfiguration. They argue that in a dynamic organization, it is necessary to have the capacity to reconfigure its structure and practices, and undertake the essential internal and external transformation according to the change. The capacity to reconfigure and transform is an acquired organizational skill (Teece et al., 1997). Wang and Ahmed (2007) claim that innovative capability is required for effective reconfiguration, since it enables organizations to transform their knowledge into practices in innovative ways.

In this study, I investigate dynamic capabilities in times of educational change that will be discussed in the following chapter.

3 EDUCATIONAL CHANGE

Educational change is defined as a process that intends to revamp existing educational policies, processes and practices with the aim of improving students learning and holistic development (Duke, 2004; Fullan, 2016). Factors that emerge and shape educational change can be divided into two categories: external and internal factors. External factors include global influences and domestic cultural, economics and political dynamics, whereas internal factors are outcome of the social interactions among individuals and educators (Hargreaves, 1995; Holbeche, 2006). These contributing factors create the urge of renewing and re-examining existing educational policies and practices (Fullan, 2016; Sahlberg, 2011). Fullan (2016) asserts that educational change is a multidimensional action that requires renewing instructional resources, reconfiguring teaching and learning practices as well as changing beliefs or developing understanding regarding changing policies and practices. He argues that without effective integration of these three components, it is unlikely to achieve desired educational outcomes. However, educational change does not always bring comfortable feelings for teachers and school leaders; rather, it causes dissatisfaction, anxiety and capability challenges for them (Hargreaves, 2004; Timperley, 2005). In the following section, capability challenges brought by educational change will be discussed.

3.1 Educational Change and Capability Challenges

Although the aim of educational change is to ensure quality education for all learners, it also brings about some capability challenges for educational organizations, particularly for leadership to implement undertaken changes in their organizations (Timperley, 2005), since dealing with educational change requires educational organizations and their leadership to be ready for it by developing and renewing its resources and competences (Weiner, Amick & Lee, 2008). In this section, I will explore the following perspectives: technology, teaching and learning practices, school environment and curriculum during educational change

that brings capability challenges to educational organizations and their leadership. These perspectives have been proven very common in exploring educational change and its consequences (Fullan, 2016). The capabilities that are challenged by the educational change are not ordinary capabilities. These are the dynamic capabilities required to cope with educational change (Fennell, 2005). It is noteworthy to mention here that I put curriculum as a separate perspective because there was a curriculum reform in Finland, and the participants of my study was working on it.

Resources

Achieving desired educational outcomes is significantly connected to the sufficient resources to education (Hanushek, 1997; Pouncey, Ennis, Woolley, & Connell, 2013). Educational organizations with sufficient resources are able to invest in developing knowledge and capabilities of the teachers that is required to meet the challenges of educational change (Fernandez & Wise, 2010). Therefore, it is needless to say that adequate resources are crucial for educational organization to run smoothly and effectively to achieve desired goals and objectives (Feldman, 2004). Resources are defined as input to produce desired educational outcomes (Helfat & Peteraf, 2003). Anderson, Briggs, and Burton (2001) identify two kinds of resources in educational organization, such as financial resources and real resources. They refer financial resources to the available resources that are used to employ real resources. Real resources comprise of human resources (e.g. teachers, support staffs) and material resources (e.g. infrastructure, teaching and learning materials). Sufficient financial resources provide the educational organization with the ability to secure human resources and material resources (Anderson et al., 2001).

However, due to economic recession, state financing to public education is declined significantly around the world that that brings about challenges for educational leadership. Drew (2010, p. 62) in her study found that competing for resources, spending time for gaining finances, struggling with resource allocation and concerns at recruiting and retaining quality staff are the key challenges

that educational leadership experienced due to resource reduction to education. Resource reduction puts more responsibilities to leadership that requires developing some capabilities to deal with insufficient resources (Anderson et al., 2001). For instance, they need to involve in resource allocation that sometimes forces them to take some tough decisions, such as eliminating programs and services, downsizing employees and working in poor school infrastructure (Anderson et al., 2001). Leadership faces challenges in utilizing limited resources efficiently and searching for alternative opportunities to achieve the organizational goal. In order to secure additional finances, they need to negotiate with respective authority and develop and maintain network with local business (Anderson et al., 2001).

Technology

It is widely believed that usage of technology in teaching and learning practices enhances students' learning as it enables students and teachers to make connection with local and global communities with the purpose of expanding their learning opportunities (Ghamrawi, 2013; Kozma, 2003; Livingstone, 2012). The use of technology in teaching and learning practices prepares students for the future knowledge-based society by providing new learning opportunities in a constantly changing teaching and learning environments. Technology-enhanced school environment promotes individual and group learning and plays significant roles in renewing teaching and learning practices according to the changing demand (Alemu, 2015; Ertmer, 2005). This belief accelerates the integration of technology into teaching and learning process and practices (Levingstone, 2012). However, effective integration of technology into teaching and learning process requires school leadership to develop its technological competencies and perceive the significance of leadership role in technology integration (Gurr, 2000; Afshari, Bakar, Luan, Samah & Fooi, 2009). The school leadership needs to provide adequate technology infrastructure and resources as well as facilities for

professional development for targeted users to develop their technological competence (Ertmer, 1999; Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012; Means, 2010; Mama & Hennessy, 2013).

The integration of technology in teaching and learning process brings about anxiety and capability challenges for the intended users, including school leadership that may resist them to use technology. Therefore, changing attitudes and developing technological competence are required for effective integration of technology in education (Mama & Hennessy, 2013). For example, Means (2010) posits that for effective integration of technology, there is a need for gaining deeper knowledge about effective integration of technology into instruction and developing supportive school environments. It requires development of consistent instructional vision, on-site technical support, collaboration among teachers regarding technology use and support, and encouragement from school leadership. Mouza (2003) asserts that successful integration of technology into instruction is unlikely without the support and encouragement from the school leader to teachers, since it is considered as a crucial component in establishing technology as a part of the school culture (Anderson & Dexter 2005; Shattuck, 2010).

Teaching and Learning Practices

The world is going through unpredictable economic, technological, social and cultural change that create the demand for developing knowledgeable and highly skilled learners for the 21st century (United Nations Educational, Scientific and Cultural Organisation [UNESCO], 2014; Fullan, 2016). This demand calls for educational organization to modify its teaching and learning practices to take on the challenge (Benade, 2014; Fullan, 2016). For the holistic development of the learners and for making them capable of adapting to change, some competencies are needed along with knowledge acquisition. These competences are defined as '*transversal competences*' by UNESCO and these include values and attitudes, collaboration, self-discipline, resourcefulness and respect for environments (UNESCO; 2014, p.15). Preparing learners for the 21st century with the above-

mentioned knowledge and competences requires reconfiguring teaching and learning practices according to the changing demand (Fullan, 2016). It is suggested to consider learners as a learning partner rather than a knowledge recipient. In other words, students' active participation should be ensured in the teaching and learning practices (Fullan, 2016). Struyven, Filip, and Janssens (2010) propose applying student-activating teaching methods in the classroom as it stimulates students to take part individually and collectively in knowledge creation, interpretation and application. It is more likely that students can understand and internalize their lessons if they are actively engaged in the learning process (Struyven et al., 2010). In this regard, teachers' responsibility is to create an environment where students can actively take part in learning (UNESCO, 2014). However, reconfiguring teaching and learning practices that ensure students' active participation in learning requires teachers' intellectual know-how, supportive school infrastructure and culture; and, more importantly, teachers' motivation (Fullan, 2016). Thus, it is the responsibility of the school leadership to build the capability of the teachers by providing required knowledge and skills to improve their teaching approaches, and develop school's infrastructure and processes to support and motivate teachers to use their new teaching approaches which seem to be challenging for school leadership (Fullan, 2016).

School Environment

Fullan (2016) accentuates that making educational change effective and sustainable requires school leader to develop the school environment. School environment refers to both school's physical environment and school culture. Lippman (2010) argues that in order to meet the demand of the 21st century, the physical environment of school is meant to be reorganized routinely to mediate student learning. Along with developing physical environment of the school, it is also required for the school leadership to develop a positive and collaborative school culture (Fullan, 2016). Fullan (2016) argues that collaborative school culture intensifies morale, enthusiasm and collegial relationships among teachers that facilitate change (Fullan & Ballew, 2004). School culture can be defined as a set of

beliefs, norms and values, relationships and attitudes as well as rules and regulations of the school that continuously contours and guides its everyday activities (Fullan, 2016; Schein, 2004). Collaborative cultures persistently transform tacit knowledge into shared knowledge through interaction in addition to preventing professional isolation of teachers (Fullan, 2016). Collaborative school culture also builds strong relationships among teachers, students, parents and community as well as ensures their participation in decision-making about change (Fullan, 2001). As a result, all parties are motivated and committed to collaborating with the change process. It creates a sense of community that is required for intellectual and emotional development of the students (Fullan, 2001). Making a difference in the lives of students requires care, commitment and passion as well as the intellectual know-how of the teachers to do something about it (Noddings, 2003; Fullan, 2003).

Fullan (2016) argues that dealing with educational change, in some cases, requires '*reculturing*' of the school culture. Reculturing is a process of adjusting teachers' longstanding personal and professional beliefs and attitudes with the new set of belief and behaviour. It builds up teachers' confidence in new practices (Wedell, 2009; Fullan, 2016). However, Wedell (2009) warns that reculturing is not an easy process, and it seems to be challenging for the school leadership. It may affect teachers' existing professional relationships with colleagues, learners and community that may trigger fear, insecurity and dissatisfaction towards profession. Therefore, the school leadership needs to take people's emotion into consideration while reculturing. It requires a great deal of time and efforts from those who take part in the change process (Wedell, 2009).

Curriculum

Advancing knowledge and innovation in education to keep pace with a world that is changing with great rapidity requires constant development of curriculum (Jacobs, 2010). Therefore, many countries make attempt to develop their curriculum to respond to the changing knowledge and competencies demand (Bantwini,

2010; Deng, 2016). The aim of developing curriculum is to bring changes in educational beliefs, practices and structure in order to enhance student well-being and holistic development (Sargent, 2011). Therefore, developing and implementing new curriculum requires knowledge and understanding of theories and practices related to new curriculum, changing teachers' belief regarding new learning theories and practices and developing individual and collective capability by promoting learning in schools (Fullan, 2016; Sahlberg, 2011). In order to succeed in curriculum implementation, school leadership needs to restructure school's structure, practices and competencies that can facilitate new teaching and learning theories and practices (Colmer, Waniganayake, & Field, 2015).

3.2 Leadership Role and Competencies to Deal with Change

To deal with any kind of change, there is always a need for the leadership that can make the change successful and sustainable (Gill, 2002; Hallinger, 2003). Dealing with change always requires developing capabilities of the organizations and their members. Therefore, the role of the leader is considered to be the key factor to develop the capabilities of the organizations to stay alive and succeed under changing circumstances (Levin & Riffel, 1998). Along with developing organizational capabilities, the leadership itself also needs to develop certain competencies that enable it to lead the change in an effective way (Fennell, 2005; Gill, 2002).

Scholars have identified several leadership roles and competencies that are crucial for dealing with educational change (Daniel & Wilson 2003; Fullan, 2001; Gill, 2002; Higgs & Rowland, 2000; Leithwood, Harris, & Hopkins, 2008; Mulford, 2006). The first one is moral purpose, meaning that leader needs to be deeply passionate in making positive differences in the lives of teachers, students, other stakeholders and a society. Fullan (2016) argues that attending moral purpose ensures equal opportunities for all learners regardless of their socio-economic

background and makes them able to deal with the dynamically changing societies. It requires care, commitment, spirit and intellectual know-how of the leaders (Noddings, 2003; Fullan, 2016).

Secondly, leaders are required to understand change. Educational change is not just simply about putting new ideas or policies into practice; it requires developing infrastructure, culture and capabilities of educational organizations (Fullan, 2016). The ability to understand change helps leader to reconfigure and restructure strategies, infrastructure, resources and capabilities according to the changing circumstances. Understanding change is crucial in order to initiate change strategies and allocate required resources to implement these strategies (Higgs & Rowland, 2000). Higgs and Rowland (2000) claim that educational organization largely depends on external sources for resources. Hence, in order to get sufficient resources leaders need to negotiate with the key resource providers for implementing necessary change initiatives. However, understanding the current economic recession that leads to resource cut to education, it is suggested for leaders to acquire the capability of coping with limited resources efficiently and search for alternative opportunities to achieve the organizational goal (Teece, 2009; Pavlou & El Sawy, 2011). They need to create some internal intangible resources rather than being dependent on external financial resources. Developing teaching and learning process, enhancing capabilities and building relationship with other schools are some of the examples of significant intangible resources (Eisenhardt & Martin, 2000; Fullan, 2001; Teece, 2009; Vassolo & Anand, 2008).

Fullan (2001) argues that in order to succeed in dealing with change, it is crucial to develop relationship among leaders, teachers, students and other stakeholders. Meaningful relationship that is based on authenticity and care develops people's encouragement and commitment to working for making positive differences in others' lives, because they have genuine love and care for both self and others. It also promotes harmonious work environment that is essential to meet challenges of the changing circumstances (Fullan, 2001; Higgs & Rowland 2000; Leithwood, et al., 2008). Developing relationship in times of complex change requires leader's emotional intelligence, which refers to understanding oneself and

other people's emotion and responding to others in appropriate ways. Emotionally intelligent leaders are capable of developing relationship, because they are aware of their own emotion and those of others and behave accordingly (Fullan, 2001; Gill, 2002).

Next, leaders need to facilitate capacity building by creating, sharing and integrating new knowledge in order to develop individual and organizational capabilities to deal with change (Fullan, 2001). Levin and Riffel (1998) argue that developing knowledge and capabilities according to the changing circumstances requires facilitating learning in the organization. Hence, leaders need to develop a favourable and collaborative organizational infrastructure and learning culture that enhance, rather than inhibit, knowledge creation and dissemination (Leithwood et al., 2008). In a collaborative learning culture, everyone feels a sense of union, appreciation, trust and care that encourages knowledge creating and knowledge sharing. Collaborative culture also empowers people to use their creative ideas to deal with change (Gill, 2002). In a collaborative culture, everybody supports each other to develop their capabilities according to the changing demands that give them confidence to take part in the change process (Mulford, 2006). By nature, people are change resistant, and they are afraid of unknown and uncertainty. Gill (2002) asserts that one of the main reasons for being resistant to change is lack of adequate knowledge and skills. Therefore, it is the responsibility of the leader to identify learning areas and promote learning with the aim of developing individual, group and organizational capabilities to deal with change (Higgs & Rowland, 2000; Mulford, 2006). Fullan (2001) argues that along with facilitating teachers' learning, leaders also need to continually develop their own knowledge and skills to understand the change and take necessary steps according to the changing circumstances. Gill (2002) argues that most of the change efforts fail due to inadequate knowledge and skills of the leaders to understand and implement change (Fullan, 2016). Hence, upgrading personal knowledge and skills are required for leaders to renew and redesign the organizational structure, strategies, practices and culture to meet the change requirements (Fullan, 2001; Leithwood et al., 2008).

Facilitating teamwork and building network are also essential in order to develop capabilities required for change (Daniel & Wilson 2003; Eisenhardt & Martin, 2000). It is proven that teamwork and internal and external networking enable individuals and organizations to deal with the rapidly changing educational circumstances. Teamwork and networking enable people to work on a common purpose collaboratively and find new ways of working by exchanging their knowledge and expertise to improve organizational capabilities in times of change (Chapman, 2008; Kiggundu & Moorosi, 2012; Vassolo & Anand, 2008). Facilitating teamwork and networking requires leaders' effective interpersonal and communication skills. Fullan (2004) asserts that change always creates disagreements among people regarding changing vision and strategies. Therefore, leaders need to resolve this kind of disagreements by using their emotional intelligence. Gill (2002) argues that leaders with higher emotional intelligence are able to manage better interpersonal relationships that is crucial for teamwork and networking. Moreover, leaders also need to effectively communicate changing vision and strategies to resolve conflicts of interests and get people's involvement and commitment to change, since it gives people clear and comprehensive direction towards changing vision, strategies and competencies (Fullan, 2004). Gill (2002) argues that leaders need to have the ability to accumulate information logically regarding change and convey it effectively to others so that they can get clear ideas about their roles and responsibilities.

In order to get people involved and committed to change, Leithwood et al. (2008) put emphasis on developing shared values and goals. They argue that people's involvement and commitment to change emerge when they find that the organizational vision and goals are aligned with their personal needs, interests, values and feelings. Therefore, the vision of the organizations should be shared and well communicated with those who are involved in the change process (Leithwood, et al., 2008). Gill (2002) claims that shared values build sense of togetherness that prompts commitment to change.

However, the leadership role and competencies identified by scholars are not a set of series; rather, they are concurrent and interrelated. Therefore, leaders

need to make a coherence among the above-mentioned roles and competencies in order to deal with educational change efficiently (Fullan, 2004).

4 RESEARCH TASK

The aim of this study is to understand how educational organizations and their leadership exercise and develop dynamic capabilities in order to cope with educational change that is required for every organization to keep pace with the educational circumstances. In order to achieve the above-mentioned aim, the study focuses on the following research questions:

- (1) What kinds of capability challenges Finnish school leadership faces within their organizations in times of educational change?
- (2) How does leadership cope with change?
- (3) What is the role and what are the competencies of the school leader as to dynamic capabilities to cope with change?

5 IMPLEMENTATION OF THE STUDY

In the beginning of this chapter, the background and context of the study will be discussed. This will be followed by discussions on the process of selecting participants and getting access to them, and creating and administering data collection tools. Next comes discussion on the selected research method and its significance, followed by the chosen data analysis techniques and data analysis process.

5.1 The Background and Context of the Study

This study took place in Finland that is located in Northern Europe. Finland is a country that has developed a distinctive education system with the objectives of providing equal opportunities for all learners (Sahlberg, 2015). The keywords featured in Finnish education policy can be enumerated as 'quality', 'efficiency', 'equity' and 'internationalization' (Finnish National Agency for Education [FNAE], 2018). Finland has been in the center of the international attention due to its outstanding education system (Niemi, 2012), especially after holding top rank in the Programme for International Student Assessment (PISA) administered by the Organization for Economic Co-operation and Development (OECD) in 2000, 2003 and 2006 (Sahlberg, 2011; Schatz, Popovic & Dervin 2015; Simola, 2015). Finland's education system has consistently ranked among the best in the world for more than a decade. This leads the international education experts to continually seek for the contributing factors that enable Finnish education to be the world leader in the education sector (Malinen, Väisänen & Savolainen, 2012; Sahlberg, 2011; Simola, 2015).

The Finnish education is comprised of pre-primary education, basic education, upper secondary education and higher education. The Finnish education system is decentralized in terms of education policy formulation and curriculum development (Niemi, Toom & Kallioniemi, 2012). The Ministry of Education and Culture is responsible for developing education policy and allocating central funding whereas the Finnish National Board of Education (FNBE) is in charge of

determining concrete objectives and subject matters of instruction in the different subjects. FNBE is also responsible for curriculum development (Kupiainen, Hautamäki & Karjalainen, 2009). At the local level, local communities enjoy broad autonomy regarding practical arrangement for schooling and curriculum development (Lavonen, 2007). They develop their own local curriculum, with teachers and principals, based on the national core curriculum. In the Finnish education system, teachers' and principals' active involvement in curriculum development is considered as a crucial factor that motivates and empowers teachers and principals to implement the changes effectively (Lavonen, 2007). At the school level, each school creates its own curriculum based on the national core curriculum and the municipal curriculum (Kupiainen et al., 2009). While developing school curriculum, teachers and principals consider opportunities and challenges of their own school environment as well as differences in students' competencies and background. This consideration allows them to ensure equal learning opportunities for all learners (Lavonen, 2007).

However, globalization, technological advancement as well as greater service and efficiency demand create the necessity of reviewing and renewing the education policy and curriculum of the Finnish education system constantly to keep pace with the changing world (Sahlberg, 2015). The changing education policy and curriculum bring the change into school environment and teaching and learning practices that requires continuous capability development of the schools and its teachers, including principals, to meet the changing circumstances (Fullan, 2001). This has resulted in a grown and strong interest to investigate how Finnish schools develop their capabilities to cope with the changing educational circumstances.

The data for my study mostly came from a middle-size city in Southern Finland, where a reform-leading team worked on curriculum development in 2016. It is worth to mention here that a major curriculum reform was undertaken in Finland in 2014 with the aim of developing highly knowledgeable and skillful Finnish learners for the future (FNAE, 2014). The members of the team came from

different positions from various comprehensive schools, such as school principals, leadership representatives and teachers. According to my research topic, the school leaders who are usually involved in initiating and leading change have been selected as the participants of my study. I also collected data from the other principals through my personal networks who were not working in this team as I did not get sufficient responses from this group.

5.2 The Participants and the Research Process

The participants of the study were school leaders. It is noteworthy to mention that 'the school leaders' does not surely refer here to 'the school principals'. They could also be teachers who hold any kind of leadership position in the school. In order to select appropriate participants, sampling was applied. Gay, Mills, and Airasian (2006) define sampling as the process of selecting a number of individuals with the purpose of gaining deeper insights of the phenomenon being studied. Compared to quantitative research, qualitative research deals with samples that are small in number and less representative since qualitative research demands comprehensive data to meet the purpose of the research phenomenon (Gay et al., 2006; Gall, Gall & Borg, 2003). According to the demand of the research phenomenon, different types of samplings are used in quantitative and qualitative research. However, in qualitative research, almost always, sampling is purposive because qualitative research demands in-depth data to explore the phenomenon being studied. As a result, researchers tend to select participants who they consider to be thoughtful, informative and experienced with the research phenomenon (Gay et al., 2006). I selected my participants considering the fact that they are knowledgeable and experienced with educational change and leadership practices, because they held leadership position in their schools and more importantly were working on curriculum reform.

A handful of sampling techniques, within the domain of qualitative purposive sampling, are used to select appropriate participants in qualitative research. I used *convenience sampling* for selecting participants for my study as it is

appropriate in circumstances where access to the participants is difficult and restricted and researchers carry out their studies with limited resources of time and people (Flick, 2006; Patton, 2015). Gall et al. (2003) identify some circumstances where convenience sampling can be used, for example, the location of the sample is close to the researcher; the researcher has the connection to the person who can assist to manage and convince other participants to take part in the study, and the setting is familiar to the researcher. This method is also suitable in circumstances where participants are available, and it is convenient to study under given conditions (Flick, 2006; Patton, 2015). In my case, my supervisor had personal connection to the person who was the leader of the team from which I chose to collect my data. The personal connection helped me to get access to the participants of my study.

The participants of my study were school leaders who are typically busy with their roles and responsibilities. Therefore, it seemed difficult to get suitable participants for the study. Fortunately, there was an arranged meeting with a person who was the project leader of a reform project in Southern Finland. In her team, there were selected school teachers and principals to plan a new curriculum for their town according to the national curriculum launched for Finnish comprehensive schools in 2016.

After getting participants for my study, I developed my data collection tool. I used a web-based open-ended questionnaire as a data collection tool as it helps researcher to get responses from the desired participants who cannot be reached in person (Best & Kahn, 1986; Gall et al., 2007). A web-based questionnaire allows the participants to answer the questions at their convenience, and it does not require one setting to complete it. The participants also do not need to follow any order to answer the questions (Gall et al., 2007). A web-based questionnaire is interactive. It gives an opportunity to the researcher to build a rapport with the participants that is important for motivating them to take part in the study spontaneously and express and share their opinion, ideas and experiences in relation to the phenomenon being studied (Best & Kahn, 1986; Bogdan & Biklen 2007; Creswell, 2007). It also permits the researcher to tailor the questionnaire to the

participants and get feedback on this which helps him to modify the questions (Gall et al., 2007). There are some important elements in administering a web-based questionnaire. Writing the cover letter is one of them. The cover letter has a positive impact on the participants that strongly influences the return rate (Gall et al., 2007), because by writing a cover letter, the researcher can better outline the research topic and objectives to the participants. Another important feature of a web-based questionnaire is that the researcher can also clarify any terms relating to the questionnaire if needed (Best & Kahn, 1986).

Before sending my questionnaire to the participants, I had to do pilot testing of my questionnaire as it is considered to be another important component in preparing a good questionnaire. I pilot-tested my questionnaire with one participant who was the team leader as well as a school principal. She asked for some clarification while answering my questions. This pilot testing was crucial for me as it allowed me to modify my questionnaire to make it more effective and understandable.

After finalizing my questionnaire, I created a web-based survey with the technical support of Webropol (<http://www.webropol.com/>). I used it free of charge as my university has a software license of it. It is a platform that safely keeps the responses identified and authenticated. In this platform the users can create and analyze questions automatically and systematically. It also helps the users to systematically turn numerous facts and information into knowledge that saves the data processing time. After creating my web-based questionnaire, I sent the link to her and requested her to forward this link to the other representatives of school leadership as she had their contact information. She was the only contact person through whom I communicated with the other participants. She forwarded the link to the other participants. Just thereafter, I got the other participants' email addresses and requested them to take part in my study by answering the questionnaire. I also had to give them a gentle reminder to answer my questionnaire, as they were busy with their daily job.

I was supposed to get ten responses from ten school leaders, but unfortunately, I got only five. I contacted the participants several times but did not get

any more responses. The project leader also requested the others to answer the questionnaire, but without success. Then I tried to use my personal network to get more responses as I was convinced that the responses I got were not sufficient to analyse the data for my thesis. The persons I contacted were also school leaders in Southern Finland. They have vast experiences regarding education, educational change and leadership. Fortunately, I got two more responses from them. Finally, I had altogether seven participants. This lack of responses had certain effects on my data analysis and findings that will be discussed in the connection of limitations of the study.

5.3 Research Methods

Before selecting an appropriate research approach to conduct my study, I went through different types of approaches to deepen my knowledge about appropriate research methods. I found three major research paradigms that are used in educational leadership and management, namely, quantitative, qualitative and mixed method (Johnson & Christensen, 2008). In my study, I used qualitative research approach as it plays a vital role in advocating for change and improving the lives of individuals to cope with change (Bogdan & Biklen, 2007; Creswell, 2013). Bogdan and Biklen (2007) suggest for using qualitative approach if the researcher intends to learn how educational organization go through and cope with change. Since the aim of my study is to know how schools and their leadership cope with change I came to the conclusion that a qualitative study was the appropriate approach (Creswell, 2013).

Qualitative research is most applicable for the research problems in which researchers get little information from the existing literatures and need to gain a deeper understanding on the issue from the participants through exploration (Creswell, 2013; Johnson & Christensen, 2008). It was mentioned in the introduction chapter of this study that few studies were carried out regarding dynamic capabilities in educational organization. Hence, I got little information from the existing literatures about the context and conditions of dynamic capabilities in

educational organization. Therefore, this approach gave me the opportunity to obtain a better grasp of the phenomenon being investigated (Denzin & Lincoln, 2000, p. 4).

Educational researchers have mostly preferred to use a qualitative research approach as it helps them to know about participants' views, feelings, experiences and personal interpretations about educational issues (Bogdan & Biklen, 2007; Creswell, 2013; Maxwell, 2005). Qualitative research also tends to investigate 'how' and 'why' different factors and processes are involved in influencing individuals' views and actions to produce certain outcomes (Maxwell, 2005).

Qualitative research relies more on the views of the participants rather than on the direction identified in the literature by the researchers (Bogdan & Biklen, 2007; Creswell, 2013). In a qualitative research, responses of the participants are collected in an exploratory way and the study takes place in a natural setting of the participants. Rigorous as well as multiple methods are used in qualitative research in order to get in-depth data (Bogdan & Biklen, 2007; Cohen, Manion & Morrison, 2013; Creswell, 2013; Johnson & Christensen, 2008). Generally, in qualitative research, data is collected through interviews, observation, questionnaire, opinionnaire, and/or documents. In a qualitative research, the purpose is more open-ended than in quantitative research. Broad questions are asked to learn best from the participants. Qualitative researchers play an objective role in collecting and analysing data. In qualitative research, collected data is analysed in an inductive way (Creswell, 2013).

In my thesis, I used case study approach as it helps to develop knowledge and understanding to a particular phenomenon (Mills, Durepos & Wiebe, 2010). It is an appropriate approach to employ if the researcher want to investigate a particular phenomenon in-depth within its own context in order to gain experience how the phenomenon occurs in certain situations (Gall et al., 2003; Creswell, 2013). In my study, I was interested to gain understanding how dynamic capabilities are exercised and developed in educational organizations.

5.4 Data Analysis

Data analysis is a pivotal phase in any kind of research work (Efron & Ravid, 2013). It is defined as a process of transforming raw data into meaningful and reliable findings (Patton, 2015). It helps researcher to summarize the collected raw data in order to make sense of it concerning participants' views on phenomenon being investigated (Cohen, et al. 2013; Gay et al., 2006; Patton, 2015). Analysing qualitative data occurs in several phases, for example, in reading, revising and refining the raw data, looking for appropriate codes, themes and patterns and identifying significant connections and relationships among them, and describing the findings in a logical and meaningful way (Efron & Ravid, 2013 ; Patton, 2015).

There are different kinds of data analysis techniques used in qualitative research. In my study, I used qualitative content analysis technique to analyse my data as it is used to describe social events and change and people's reflection on change (Chadwick, Bahr & Albrecht, 1984). It is the technique to systematically identify specific features of data and categorize them into meaningful information (Cohen et al. 2013). Qualitative content analysis gives a larger understanding of the phenomenon under investigation by providing holistic and factual description of the collected data (Eriksson & Kovalainen, 2016). Roller and Lavrakas (2015, p. 233) define content analysis as a "systematic reduction of content and analysed with special attention on the context in which data were created, to identify themes and extract meaningful interpretations of the data".

Qualitative content analysis is considered as an inductive process by which researchers identify meanings and connections from the data itself, with little or no assumptions regarding coding schemes or categories that encompass underlying constructs (Roller & Lavrakas, 2015). In qualitative content analysis, generally two techniques are used to analyse data, such as categorization and interpretation. The former requires systematic coding schemes whereas the latter does not necessarily need them. Categorization aims at describing the content of the data in a manner that provides a general and holistic picture of the phenomenon under study. Interpretation aims at understanding the phenomenon from a

meaning-making perspective in a given context (Eriksson & Kovalainen, 2016). In this study, categorization has been used to analyse the data as the aim of my study is to explore the development of dynamic capabilities in educational organization based on leadership experiences and perspectives regarding the phenomenon being investigated. For analysing the data gathered from my participants, I read and reread first the data intensively in order to understand the data completely and getting a sense of the whole picture. After that, I developed some categorizes/themes and analysed these following the research questions of my study. In answering to the research question 1 and 2 I developed some initial categorizes based on five perspectives of educational change that were described in the theoretical part. After developing the initial categorizes, I reviewed them and combine them to develop the final categorizes that corresponded to my research question 1 and 2. In answering to the third research question only one level of categorizes were developed. These categorizes merely correspond the themes of leadership role and competencies in times of educational change. The five perspectives that were used to answer the research question 1 & 2 were not applicable to answer the research question 3.

As to my participants, I had seven school principals who are working in the primary and secondary school. Due to ethical issues, the names of my participants were kept anonymous. Therefore, I preferred to refer them as Participant 1, 2, 3, 4, 5, 6, and 7. I also preferred to use 'he' instead of using s/he in order to not reveal the gender of the participant. Moreover, while analysing the data related to research question 1 & 2 I used the term 'leadership' to describe participants' experiences and views. On the other hand, I used the term 'leader' while analysing the data related to research question 3 as it mostly emphasize the role and competencies of individual leader.

5.5 Ethical Solutions

Before approaching the participants of my study, I had to go through the academic protocols that are exercised in the Department of Education, University of Jyväskylä. I had to collect a research permit letter signed by the head of the department and my thesis supervisor. I needed to send this/show to my participants as a proof that I have the permission to conduct this study. To make them feel safe and secured to take part in the study, I guaranteed that their confidentiality, anonymity, and privacy would be protected. I also assured them their responses would not be used in other purposes than the study. Because in the analysis of qualitative data, confidentiality, anonymity and privacy are the crucial issues regarding ethics (Flick, 2007).

6 RESULTS

This chapter deals with the categorized data and findings from the open-ended questionnaire. This questionnaire was exploited to understand school leadership's experiences and views about the capability challenges in the times of educational change. Moreover, the data showed what was required from the educational organizations as well as from leadership roles and competencies to cope with the rapidly changing circumstances. The data will be analysed in answering to the following research questions in three sub-chapters.

(1) What kinds of capability challenges Finnish school leadership faces within their organizations in times of educational change?

(2) How does leadership cope with change?

(3) What is the role and what are the competences of the school leader as to dynamic capabilities to cope with change?

After reading the gathered data intensively, several recurring initial categories, under the five themes presented in the theoretical part (resources, technology, teaching and learning practices, school environment and curriculum), emerged from the data. These challenging issues were then regrouped for final categories, according to each research question.

6.1 Capability Challenges for School Leadership in Times of Educational Change

This section explores different kinds of capability challenges that Finnish school leadership experiences because of educational change. As it was already mentioned in the chapter 5, the participants of this study could be school teachers holding leadership position in the school. Moreover, in Finland, principals also conduct classes, in some cases, in their schools. Therefore, during data analysis,

their capability challenges also will be discussed from teaching and learning perspectives. Table 2 presents the initial categories, whereas Table 3 presents the final categories obtained for the first research question.

TABLE 2 Initial Categories: Issues that Challenge Leadership Capabilities in Times of Educational Change

Resources	Technology	Teaching and Learning Practices	School Environment	Curriculum
Resources allocation Budgeting More responsibilities Time Insufficient financial resources	Technological knowledge and competence Technology integration Motivating teachers Rapid technological change	New learning ideas Altering teaching and learning practices Developing Knowledge and competence Technology integration Motivating teachers	Bigger class size Inclusive classroom Unhealthy internal environment Motivating teachers School merger	New learning ideas Altering teaching and learning practices Developing knowledge and competence New learning materials More use of ICT Change in assessment New subject matters

TABLE 3 Final Categories

Resources Reappraisal Technology Integration Reconfiguring Teaching and Learning Practices Motivating Teachers

Resources Reappraisal

Dealing with limited resources brought the biggest challenge for the school leaders to reappraise their existing resources to meet the demand of changing educational circumstances. Most of the participants mentioned that they were experiencing financial constraints due to the financial resource cut to education. This

brought a challenge for the school leadership to effectively reappraise their limited resources to support teaching and learning in the changing circumstances. It also put more responsibilities to the school leadership as they needed to put more efforts and time to reappraise resources effectively to make ends meet. Participant 1 said, *"We have to handle our work and new challenges with less resources."* According to the participants, while financial resources have been reduced, the areas of expenditure have rather increased. To meet the demand of the new curriculum, they needed to buy new material resources, including new books for new subject matter and new technological devices as well as license to use these devices. It was revealed from the statement of Participant 5, who asserted that *"Heads have to see that not only books will be bought but also licences for certain electric learning environments. We try to spend one third of the money for literature on iPads and tablets.* Therefore, they had to continually struggle with inadequate school finance that led them to prioritizing the needs and reallocating the money to fulfil those needs. Participant 7 claimed, *"Budget allocation is the most challenging changes. I am constantly struggling trying to make the ends meet"*.

Technology Integration

Finnish schools have been experiencing rapid changes in using technology in teaching and learning practices. A wide range of digital tools and gadgets have been integrated into teaching and learning processes. Although using these technologies has a great positive impact on teaching and learning practices, it requires the development of technological knowledge and competence of the intended users as well as deeper knowledge about effective integration of technology into instruction. Therefore, it seemed to be a challenge for the leadership to prepare themselves as well as the teachers to integrate new technology into their teaching and learning practices. It was perceived that the rapid changes in technology required school leadership and teachers to enhance the knowledge and competence to use new technology in their own work and integrate technology

into teaching and learning practices. Participant 6 stated, *“Rapid changes in technology (smart boards, laptops, tablets and lately chromebooks) which means we have to learn new ways to work and teach.”*

It was also revealed that effective integration of technology into teaching and learning practices required school leadership to provide adequate technology infrastructure and resources with limited financial resources that was challenging for them. Participant 4 warned that it is unlikely to integrate technology into instruction without sufficient technology infrastructure and resources. He said, *“The use of new technology is impossible if you have no financial resources for hardware and software.”* Inadequate technology infrastructure and resources also created impediments in developing students’ technological knowledge and competencies that would make them lag behind their counterparts who are equipped with sufficient technology infrastructure. Participant 5 expressed his concerns regarding this challenging issue. He said, *“[.....] but we will be behind the capital area schools who have one computer per student or even one to one. Ours is one computer to four students.”* Therefore, it was perceived that inadequate technology infrastructure and resources was major challenge for school leadership to ensure effective integration of technology into teaching and learning practices.

Reconfiguring Teaching and Learning Practices

It was revealed that the method of teaching and learning practices has changed due to new curriculum development and technological advancement in the schools. Teachers are expected to use more technology in their teaching practices and change the way of prevailing teaching and learning practices. Participant 3 said, *“[.....] more technology to learning techniques.”* It requires teachers as well as the school leadership to develop their technological knowledge and competencies to integrate technology effectively into their classroom practices. A significant number of the participants mentioned that the new learning ideas, introduced by new curriculum, created the necessity to heavily reconfigure existing teaching and learning practices. Participant 5 said, *“The new curriculum 2016 demands schools to change their way of teaching and learning.”* Therefore, they needed

to develop their knowledge and competencies according to the changing demand. It was revealed that integration of technology and reconfiguration of teaching and learning practices challenged school leadership and teachers existing knowledge and competencies and, thus, called for advancement to be able to cope with change.

Motivating Teachers

Finnish schools have been experiencing a great number of changes in terms of resources, technology, teaching and learning practices, school environment and curriculum. These changes have brought challenges for the school leadership in motivating teachers to take part in the change process. For example, according to the demand of the new curriculum, teachers needed to integrate technology into their instruction. Integration of technology in education sometimes brings about anxiety and capability challenges for the teachers. Therefore, school leadership was required to motivate the teachers to integrate technology into the teaching and learning process. Encouraging teachers to reconfigure their teaching and learning practices in order to meet the changing demands of the new learning ideas and curriculum was another challenge for school leadership. Moreover, due to the inclusion of children with special needs to general classroom, school leadership also faced challenge to motivate teachers to cope successfully with those children. In the words of Participant 4, “[.....] *how to encourage staff to use new technology and new ideas of learning and to cope with children with special needs in general education.*” Therefore, it was perceived that motivating teachers to take part in and adapt to the change was a paramount challenge for the school leadership in times of change.

6.2 Coping with Educational Change

Coping with change in educational organization requires developing individuals and organizational dynamic capabilities. Consequently, in this section, attempts have been made to explore how Finnish school leadership, on behalf of their

schools, facilitates developing dynamic capabilities of individuals and schools to cope with change. This section will also shed some light on school leadership's viewpoints on organizational role and competencies to develop dynamic capabilities in times of change to effectively deal with educational change. Initial categories for organizational role and competencies derived from the analyzed data are presented below in Table 4, followed by table 5 with refined and final categories.

TABLE 4 Initial Categories: Coping with Educational Change

Resources	Technology	Teaching and Learning Practices	School Environment	Curriculum
Negotiation with local politician for more finance Allocating money for technology Seizing alternative opportunities Raising taxation	Changing attitudes towards change Collective learning Technical support	Training Pedagogical tutoring and mentoring Individual learning Collective learning Teamwork External networking Self-learning materials Incorporating new learning ideas Peer discussion	Support Cooperation Discussion Trust Moral and ethics Developing infrastructure Job satisfaction Nice collegial relationship Smaller teaching groups	Positive attitudes towards change Meeting and Discussion Setting direction Critical to change Support

TABLE 5 Final Categories: Coping with Educational Change

Reconfiguring Resources Facilitating Professional Learning Facilitating Teamwork Developing Supportive School Environment.

Reconfiguring Resources

It was revealed from the participants' answers that the reconfiguration of resources was required to cope with educational change. To be able to meet the demand of the new curriculum and for effective integration of technology, some schools reconfigured their financial resources. For example, a significant number of the participants stated that they allocated some money to their school budget to buy new learning materials and technological gadgets. It was evident from the statement of Participant 4, who said, "[...] *some money of the school budget should be marked only for the new technology.*" They also carefully sensed and seized other opportunities to deal with financial scarcity. One of the participants acknowledged that he tried to negotiate with the respective authorities to allocate more financial resources for the school expenditure. However, not being dependent only on financial resources, some schools grabbed the opportunity to use alternative resources to meet their demand. Participant 7 mentioned that in their school, teachers used recycling materials to produce teaching learning materials. He said, "*I have excellent staff and they are all eager to use for example recycling materials for arts and crafts*".

As regards school leadership's suggestion to cope with financial scarcity, Participant 3 suggested to assign more finance to the school budget. He said, "*We should get some more money to cope with all these changes.*" Another participant suggested that the municipality should raise the tax rate for collecting adequate funds, since it is not possible for the school to reduce resources in education anymore.

Facilitating Professional Learning

To cope with the changing circumstances, Finnish school leadership facilitated the learning of the teachers to develop their professional knowledge and competencies. Some school leaders tried to develop the pedagogical knowledge and skills of the teachers by providing adequate training, tutoring and mentoring so that teachers could renew their teaching practices according to the changing demands. They also provided adequate knowledge and information to the teachers individually regarding changing teaching and learning processes. Participant 5

said, *“We try to build the capacity and knowledge of teachers in renewing the ways of teaching by educating and training them all the time. We have a system in the school for pedagogical tutoring and mentoring”*.

Participant 2 claimed that their school promotes collective learning where teachers learn together to develop their knowledge and skills on new technology and new curriculum. In that school, teachers were very interested in developing their knowledge and skills to be able to cope with the changes. Participant 2 said, *“Happily teachers want educate themselves to be better and better with children”*.

As regards school leadership’s suggestion to the school for being more effective to deal with the changes, Participant 1 also emphasized the development of teachers’ professional knowledge and competencies. He recommended, *“[...] more courses and training to teachers too.”* He also identified external networking with other schools is a crucial factor since it enhances teachers’ capabilities by integrating external knowledge and competencies with their existing knowledge and competencies.

Participant 4 suggested to invite experts on education to the school and arrange open discussion with them since it would help teachers to learn from them. He said, *“[...] open discussion with specialists.”* One of participants suggested providing on-site technical support to develop teacher’s technological competence.

Participant 6 mentioned that allocating adequate time for learning is very important as it allows teachers to develop their knowledge and competencies to cope with new learning ideas as well as new technology. He said, *“My school should spend enough time thinking for the new material or new technology.”* He also suggested to teachers spending more time in the group because it would help them to exchange their ideas regarding changing circumstances.

Facilitating Teamwork

According to the participants, the recent curriculum reform 2016 brought about significant changes into the school environment, teaching and learning practices, role and responsibility of the teachers and the school leadership itself. All these

changes demanded school leadership and teachers to work hard and develop the ability to work under pressure. To meet the challenges in the changing circumstances, school leadership needed to work in a team. It helped them to develop together goals and strategies and support each other to achieve the intended goals. As Participant 6 said, *"We take steps to a wanted direction and support each other"*.

To develop appropriate direction, strategies and practices according to the changing demand, the participants arranged discussion regarding the changing issues whereby they discussed together the pros and cons of the change, shared their ideas, gave concrete feedback, listened to others who had worries regarding the changes and tried to motivate them to be involved and committed to change. Participant 6 said, *" We cope with these changes by discussions, trying to see the bright side, but also saying out loud the worries we might have."* Instead of being fearful and resistant to the change, they did set the desired direction together and worked hard to reach it. According to Participant 4, adapting to the new learning ideas as well as new technology required changing the mindset of the teachers. He said, *"[...] staff and families need to change the way on thinking."* Therefore, more discussion in team was suggested to change their way of thinking regarding new technology and new teaching and learning approaches. One of the participants suggested that schools should facilitate teamwork to cope with the change as it would help leadership and teachers to find effective ways in dealing with change. Participant 6 opined that teachers should not be dependent on the leader's instruction to deal with change; rather, they should work together in a team to develop their capabilities to cope with change.

Developing Supportive School Environment

It was understood from the participants' statements that support and cooperation existed in some school cultures. The participants of the study even claimed that they supported teachers in every situation and believed in their capabilities. Participant 1 claimed that in their school they always supported one another to

deal with the changes effectively so that it does not put any negative impact on students' lives. He said, *"we have had troubles before, but we don't let all to influence to kids."* It was also evident from the participants' comments that in some schools, the relationships between school leader and teachers were very cooperative. Teachers cooperated with the school leadership in times of difficulties and they were motivated to develop their capabilities. One of the participants stated that in their school, teachers were very cooperative and flexible to take the responsibility of the extra classes when needed. Participant 7 said, *"I don't have to hire subs that often since my teachers are willing to help and they take care of another class at the same time as they teach their own."*

A significant number of the participants believed that healthy and supportive work environment is essential to deal with change. One of the participants stated that they are going to restructure their school so as to meet the demand of the new learning ideas that was recommended in the new curriculum. It would also ensure a healthy and supportive environment for both teachers and students. He said, *"[...] to remove the school building for new learning ideas."* Another participant suggested keeping the class size rather small to administer teaching and learning practices effectively.

Participant 2 claimed that professional satisfaction and the nice collegial relationship are very important to cope with change. He said, *"Joy to do your work is very important. And nice relationships between workers. Then everybody can give their best to think new ways to manage changing circumstances."* Participant 2 argued that if these two important elements exist in the school, teachers are very motivated to give their best to meet the challenges in the changing circumstances.

6.3 Role and Competencies of the School Leaders as to Dynamic Capabilities

In this section, attempts have been made to explore how Finnish school leadership facilitates developing dynamic capabilities to cope with educational change and make suggestions regarding leaders' role and competencies as to dynamic

capabilities. TABLE 6 shows the categories obtained for the third research question.

TABLE 6 Leaders' Role and Competencies to Develop Dynamic Capabilities

Developing Teachers	Communicating	Collaborating and Empowering	Negotiating for Resources	Decision-making Skills	Updating Personal Knowledge
Group learning Providing adequate learning facilities Training Providing learning tools Inviting experts	Openness Discussion Listening to people (inside and outside the school)	Teamwork Internal and external co-operation Support Spiriting up Trust Encouraging Sharing Developing leadership	Negotiation with politicians	Decisiveness Patience Courage	Knowledge about new curriculum Innovativeness

Developing Teachers

Developing teachers by providing adequate facilities for enhancing professional knowledge and competencies has a crucial role to play. All participants put emphasis on professional development of the teachers to be able to cope with the changing educational circumstances. Different kinds of initiatives were mentioned by the school leadership in order to upgrade teachers' professional knowledge and practices. One of the participants claimed that he promoted collective learning in his school where teachers were encouraged to learn together and share their learning with others. Participant 1 said, "*Sharing and learning together is important in change. That is my role to make it happen in our work in everyday life in school.*" This collective learning would boost teachers' professional knowledge and practices. Some representatives of school leadership prepared their teachers for the changing demand by providing adequate learning facilities. For instance, they offered training for the teachers and provided them adequate

learning tools to develop their knowledge and skills. Participant 3 said, *"I support my teachers in all possible ways. I offer them training opportunities and equipment."*

One of the participants claimed that in order to develop teachers' existing knowledge and competencies, he supported teachers to gather knowledge purposefully from external sources and integrate it with their existing knowledge. It helps teachers to develop their own knowledge and adds confidence to cope with change. This is evident, for example, from the reflection of Participant 4, who said, *"I try to find specialist to come to school and encourage the staff to share their own skills and ideas and what they have already learned themselves"*.

Communicating

Communicating with people who are involved in the change process was perceived to be an important role of school leadership. This is particularly important to get teachers involved and motivated to change. A significant number of participants mentioned that they communicated changing goals, strategies and responsibilities to the teachers comprehensively. Participant 6 said, *"I have to speak to the staff about the values we have and the circumstances so everyone knows how the change will happen and feel that they actually have a leader in the house."* In order to communicate the change process with the teachers, they arranged discussion whereby different issues related to change were openly and deliberately discussed. During the discussion, teachers could raise their concerns regarding the change process and share their ideas with others. The aim of the discussion was to find the appropriate solutions rather than just discuss the problems. According to Participant 6, communication needs to be two-way rather than just one-way delivery of the changing goals and strategies, and leaders need to take into consideration other people's opinions. He said, *"As a leader I need to be aware of the possibility of teachers' leaders, who might have a different opinion as mine."*

One of the participants claimed that he communicated with teachers about change comprehensively and kept himself open to teachers' opinions regarding the changing circumstances. Some participants stated that they motivated their

teachers to take part in the change process by developing teachers' positive attitudes towards change. Participant 5 claimed, *"I try to change their negative attitudes towards positive thinking."* Participant 7 asserted that he inspired teachers to use modern teaching practices in their classrooms. He said, *"My job as the leader is to encourage the teachers to come out from the traditional classrooms."*

To ensure teachers' commitment and involvement to the change process, some participants suggested that school leaders should spend more time to listen to teachers' and other stakeholders' opinions regarding changing educational circumstances. Participant 1 said, *"Time to listen to people in school and outside."* According to Participant 6, people who are involved and affected by change expect that their voice will be heard. He suggested, *"[.....] a will to listen to people who just want to get heard."*

Collaborating and Empowering

In times of educational change, Finnish school leaders in this particular reform team seemed to work collaboratively to cope with change. A significant number of the participants mentioned that they supported teachers and cooperated with them to develop their capability in every possible way so that teachers can deal with change effectively. Along with internal cooperation, one participant claimed to develop cooperation with other schools to be capable of coping with the changing situation effectively. He stated, *"Cooperation in school and between other local schools and in large scale support us."* Participant 7 mentioned that he supported teachers and empowered them to be innovative to deal with changes as he perceived it is a crucial responsibility of the leader. He said, *"I think I should innovate and elevate the staff. My most important task is to make my teachers do their best despite the financial problems."*

Facilitating teamwork and developing leadership empower teachers and develop their capabilities in times of change. Participant 6 claimed that he led the school with an executive team. The team leaders facilitated teamwork. In team, they discussed the change strategies and direction they want to go. According to

this participant, it helped the teachers to understand the change processes and strategies and gave them the confidence to cope with change.

A significant number of participants claimed that they trusted their teachers and spirited them up in order to cope with change. Participant 4 claimed that he tried to develop collaborative atmosphere where they could find effective ways to deal with change rather than being concerned about the change. He said, “[...] *try to keep positive atmosphere and solution-based handling instead of problem-based discussion.*” Collaboration and empowerment gave teachers confidence and enabled them to deal with change that eventually turned their negative attitudes towards change into positive. Collaboration also promoted sharing information and knowledge.

Negotiating for Resources

To cope with the resource scarcity, some participants tried to identify and grab possible opportunities to meet the demand. One of the participants with the cooperation of teachers took advantage of the natural resources available to their school. He mentioned, “*Our school has many possibilities which don't cost anything, for example, nature that surrounds the whole school*”. Another participant stated that to cope with the financial scarcity, he tried to negotiate with the respective authorities to get enough money for the school budget. Participant 3 said, “*I try to get enough money to cope with everything.*”

Decision Making Skills

To cope with change, a significant number of participants perceived leaders' decision making skills as crucial. Participant 3 claimed that leaders must have the ability to make appropriate decision in timely manner in the changing circumstances. He said, “*The leader must be able to make decisions quickly [...]*”. A significant number of the participants stated that leaders need to be patient while making decisions, because it is more effective in a complex decision making situation.

They also need to be courageous to make decisions in the complex changing situation, mentioned, for example, by Participant 7.

Updating Personal Knowledge

To develop goal, strategies and competencies for the changing circumstances, a significant number of participants suggested that school leaders should update their personal knowledge and competencies that would help them to understand the change process and react appropriately to the change. Participant 1 said, *"Study lot and try to follow what happening in the world and work world."* Participant 3 suggested to leaders developing their self-awareness about the changing circumstances and the ability to work under pressure. Participant 5 maintained that leaders need to develop their knowledge about the new curriculum. He also mentioned that leaders need to develop their innovative capability to implement the new curriculum. He said, *"[...] knowledge of the demands the demands the new curriculum sets for learning and enthusiasm for innovative thinking of teaching and learning."* Participant 4 asserted that while dealing with change leaders need to be optimistic about the desired outcomes. The participants of the study also named some other competencies without giving detailed explanation, for instance, flexibility, firmness and diligence in order to develop dynamic capabilities of school in times of change.

7 DISCUSSION

To begin, this chapter deals with the summary of the results and how the results of this study are congruent or contradictory with previous studies. Thereafter, the reliability of the study will be discussed. Finally, applicability, generalizability and limitations as well as implications and ideas for future researchers will be discussed.

7.1 Summary and Examination of Results

7.1.1 Capability Challenges in Times of Educational Change

Educational change always brings about capability challenges for school leadership and teachers as it challenges their existing knowledge and competencies and requires capability development. Finnish educational organizations, likewise those in other countries, have been experiencing a significant number of rapid educational changes. Therefore, this study attempted to explore the capability challenges that Finnish school leadership faced in times of educational change. This study found a great number of changes that Finnish schools have been facing in terms of resources, technology, teaching and learning practices, school environment and curriculum. These changes posed capability challenges to school leadership to cope with educational change effectively. In Figure 1, the capability challenges faced by school leadership are illustrated:

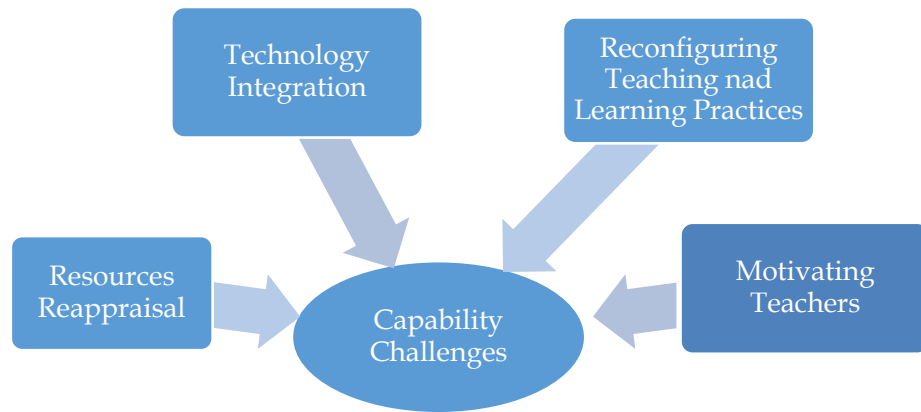


FIGURE 1. Capability Challenges for Leadership in Times of Educational Change

The most concerning change in the Finnish education, discovered in this study, was the reduction of financial allocation to education due to economic downturn (Salberg, 2015). After analyzing the data, it was found that insufficient financial resources posed challenges to the school leadership to deal with limited resources efficiently. This issue also created obstacles to finance in knowledge and capability development of the teachers as well as the students according to the changing demands.

A handful of scholars posit that resource reduction to education is one of the key challenges in dealing with educational change as educational organizations with insufficient resources are not able to invest in knowledge and capability development (Anderson et al., 2001; Fernandez & Rainey, 2006; Fernandez & Wise, 2010). Anderson et al. (2001) argue that financial scarcity puts more responsibilities to the leadership that requires developing some capabilities of the leader. For instance, school leaders need to be more efficient in resource allocation and search for alternative sources to get sufficient resources to achieve organizational goal in times of change. It was revealed in this study that school leadership needed to negotiate with respective authority for adequate financial resources that required more time and efforts. Drew (2010) in her study found that negotiation for sufficient finance and spending enough time for this are the

key challenges for school leaders while dealing with insufficient finance. Therefore, greater financial allocation to education was suggested by school leadership to deal with educational change successfully.

Implementing new curriculum reform was another factor that brought about capability challenges to school leadership. Finnish comprehensive education got a new curriculum that was undertaken in 2016. Several national and international trends, namely the 21st century movement, the role of technology in education and the new learning environments, have played important role in renewing this curriculum (Vahtivuori-Hänninen, Halinen, Niemi, Levonen, & Lipponen, 2014). In order to respond to the demands of the 21st century that require learners' holistic development, Finnish national curriculum introduced new learning ideas and put emphasis on integration of technology into teaching and learning practice (UNESCO, 2014; Vahtivuori-Hänninen et al., 2014). The objective of these new learning ideas is to develop active, independent and creative learners. It is expected that technology will support active and meaningful learning by providing many tools to create new knowledge independently and collaboratively (FNAE, 2014). Consequently, the new learning ideas caused capability challenges for teachers and leadership as they are required to update their existing knowledge and competencies regarding teaching and learning practices (Fullan, 2016).

This study found that the school leadership faced challenges to provide learning facilities to develop teachers' understanding and competencies regarding new learning ideas and motivate them to reconfigure their teaching and learning practices according to the demands of the new learning ideas. The new curriculum also brought about changes in assessment and introduced new subject matters that also required professional development of school leadership and teachers. Timperley (2011) states that nowadays school leaders and teachers face challenges due to the introduction of new curricula, assessment techniques and technology integration into instruction and organizational practice that requires professional development of teachers and school leaders.

Integration of technology into teaching and learning practices develops a learning environment whereby learners learn together and support each other in knowledge creation and application (Rakes, Fields, & Cox, 2006). Rakes et. al. (2006) assert that technology-enhanced learning environment enables learners to be prepared for the future knowledge-based society by providing active, self-directed and collaborative learning opportunities. However, Mama and Hennessy (2013) argue that although integrating technology has great benefits on students' learning, it also brings about anxiety and capability challenges for teachers and school leadership, since effective integration of technology into teaching and learning process requires school teachers and leadership to develop their technological knowledge and competencies (Afshari, 2009; Gurr, 2000). It was also evident from the data that integrating technology into teaching and learning practices posed capability challenges to the school leadership and teachers. School leadership needed to develop their knowledge and competencies regarding effective technological integration. Wilmore and Betz (2000) argue that for effective integration of technology, first and foremost, school leaders have to develop their capability to integrate technology into their daily activities. Moreover, they need to provide learning facilities for teachers to develop their technological knowledge and competencies as effective integration of technology into instruction requires teachers to gain in-depth knowledge about integrating technology (Means, 2010).

Sincar (2013) warns if teachers do not have necessary knowledge and skills, then it would be challenging for school leadership to facilitate effective integration of technology into teaching and learning practices. He (2013) further states that since technology integration into teaching and learning practices requires teachers to modify their teaching practices, they might feel anxious, unmotivated and resistant towards technology integration. Therefore, leadership might face challenges in changing teachers' attitudes and motivating them to take part in this process. The findings of this study also indicated that a significant number

of school leadership representatives found changing teachers' mindset and motivating them to use technology in their teaching and learning practices to be challenging for them.

In order to facilitate effective integration of technology, researchers lay emphasis on providing adequate technology infrastructure and resources, as well as facilities for professional development of teachers (Ertmer & Ottenbreit-Leftwich; 2010; Means, 2010; Mama & Hennessy, 2013). Without adequate technological infrastructure and resources, it is unlikely for the leadership to integrate technology into teaching and learning practices. It was also perceived from the study that the lack of resources was a major challenge for the school leadership to ensure effective integration of technology in teaching and learning practices. This study also found that due to financial scarcity, it was difficult to equip students with adequate technological gadgets, leading inevitably to shortcoming in developing technological knowledge and competencies. Therefore, it would be challenging for the school leadership to meet the aim of the new curriculum.

7.1.2 Coping with Educational Change

In order to cope with educational change, educational organizations and their leadership are required to recreate and reconfigure its structure, resources and capabilities. This study found some significant initiatives that Finnish school leadership had taken to cope with educational change. These initiatives are illustrated below in Figure 2.

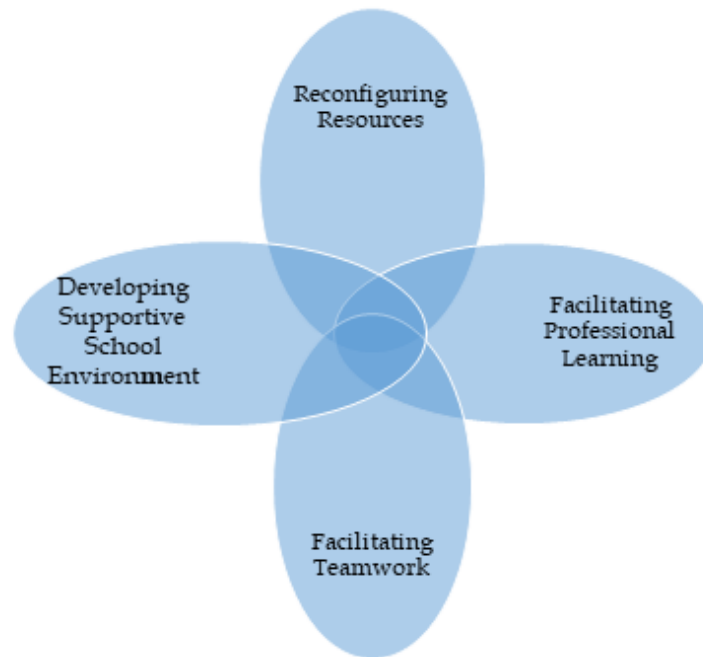


FIGURE 2. Coping with Educational Change

Firstly, they reconfigured their existing resources to meet the changing demand. Resource reconfiguration refers to the redeployment and recombination of both financial and human resources, and it is a crucial ability of the organization to cope with change (Eisenhardt & Martin, 2000; Helfat & Peteraf, 2003; Zahra & George, 2002; Helfat et al., 2007, Wang & Ahmed 2007). Dothan and Lavie (2016) argue that resource reconfiguration enables organization to cope with rapidly changing circumstances and is an important component of dynamic capabilities by which organizations supplement, eliminate, recombine and redeploy resources according to the changing demands. It was interesting to notice from the study results that Finnish school leadership typically referred to financial and material resources while discussing matters about resource reconfiguration. It was revealed from this study that some school leadership supplemented some financial resources to buy new technological devices and learning materials to meet the demand of the new curriculum, while others tried to utilize available natural resources to cope with the change.

Secondly, to develop the capability of schools to cope with change, some school leadership facilitated teachers' professional learning. They promoted in-

dividual as well as group learning. They provided training, tutoring and mentoring to develop teachers' pedagogical knowledge and competencies to deal with educational change. Scholars argue that facilitating learning enables educational organizations to renew their existing capabilities to meet the challenges of rapid educational change (Fullan & Ballew, 2004; Teece et al., 1997; Zahra & George, 2002; Pavlou & El Sawy, 2011). The ability of an organization to promote individual and group learning is an important aspect of dynamic capabilities as it enhances organizational practices to perform in the dynamic environments (Zollo & Winter, 2002). As regards developing organizational capability to cope with change, a significant number of school leadership suggested schools investing time in professional learning. Hilton, Hilton, Dole, and Goos (2015) posit that developing teachers' and school leaders' capability to cope with change requires substantial investment of time on professional learning. School leadership also suggested integrating external knowledge into schools' internal knowledge by developing external network with other schools. Eisenhardt and Martin (2000) assert that external networking supports organizations to develop their dynamic capabilities to cope with change, because it enhances their existing knowledge and capabilities by integrating external knowledge into internal knowledge.

Thirdly, in order to cope with educational change, this study found that school leaders promote teamwork where they work together with the aim of developing appropriate goals, strategies and practices to deal with change. Pavlou and El Sawy (2011) argue that to develop organizational capability to deal with change, it is crucial for organizations to create a cross-functional team that brings different types of expertise together. In a cross-functional team, team members work together to develop strategies and practices in order to encounter change. Therefore, cross-functional team supports capability building of organizations and their members (Daniel & Wilson, 2003).

Finally, it was revealed from the findings of this study that in order to develop teachers' capability according to change and motivate them to take part in the changing process, schools put more emphasis on developing a supportive school environment for teachers. In their school, school leadership supported and

cooperated each other to develop their capability to cope with change. Some schools develop school infrastructure that is safe and secured and that supports new learning ideas. They perceived that supportive and collaborative school environment ensures teachers' participation in the changing process as it intensifies good collegial relationship, job satisfaction and sense of belongings (Fullan, 2001).

7.1.3 School Leaders' Role and Competencies to Develop Dynamic Capabilities

The role and competencies of school leadership always are considered as crucial factors in developing the capability of schools in times of change. A great number of influential scholars argue that school leaders need to play a vital role in developing schools' capability to deal with change (Fullan, 2002; Gill, 2002; Hallinger, 2003; Fink & Brayman, 2006; Hilton et al., 2015). To play a significant role in developing schools' change capability, they also need to develop some competencies that are required in this regard. In order to develop teachers' capability to cope with change, this study found some significant roles and competencies of school leaders to develop dynamic capabilities of schools and teachers that are presented in Figure 3.



FIGURE 3. School Leadership's Role and Competencies to Develop Dynamic Capabilities

The school leaders perceived that without developing teachers' professional knowledge and competencies according to the changing demand, it is difficult to cope with change. Therefore, they provide training facilities, promote collective learning and external knowledge integration. In order to develop dynamic capabilities, some scholars suggest facilitating collective learning as it upgrades individual and group knowledge and competencies through knowledge creation and dissemination (Eisenhardt & Martin, 2000; Daniel & Wilson, 2003; Winter, 2003; Jäppinen & Cuissi, 2016). Internal and external knowledge creation is another way of developing teachers' knowledge and competencies to cope with change. Teece et al. (1997) argue that effective integration of internal and external knowledge is required to develop dynamic capabilities. Eisenhardt and Martin (2000) assert that leaders' effective communication skills are required for integrating external knowledge. However, Hilton et al., (2015) argue that along with teachers, school leaders also need to participate in professional development as

it helps them to understand the change process and develop their knowledge and competencies to cope with change. The participants of this study also perceived that upgrading school leaders' personal knowledge according to the changing circumstances is crucial as it helps them to understand the change process and react appropriately to the change (Fullan, 2001; Leithwood et al., 2008).

For motivating teachers to take part in the change process and develop their capability according to the changing circumstances, the study results suggest that school leaders would communicate the change comprehensively with the teachers. This study revealed that school leaders communicate changing goals, strategies and practices to the teachers comprehensively through discussion. It helps school leaders to change teachers' attitudes towards change and ensures their involvement and commitment to change. Some school leaders suggest spending time to listen to teachers' opinion regarding change, because teachers want their voice to be heard. Gill (2002) argues that school leaders need to have effective communication skills to develop teachers' understanding about change and motivate them to take part in the change process. He further asserts that effective communication ensures teachers' involvement and commitment to change by developing their attitudes towards change.

This study found that in some schools, school leaders and teachers work collaboratively to develop their capabilities to cope with change. Hord and Rutherford (1997) argue that a collaborative work environment promotes collaborative decision making and group problem-solving process that develop teachers' professional efficacy to cope with change. Hence, collaboration needs to be one of the focal points on leadership practices (Jäppinen & Cuissi, 2016). Along with internal collaboration, this study also suggests facilitating external collaboration to develop dynamic capabilities of schools in times of change. External collaboration enables school leaders and teachers to work collaboratively on a common purpose and find effective ways to deal with change (Chapman, 2008; Kiggundu & Moorosi, 2012). It was also evident from this study that some school leaders facilitate teamwork and foster teacher leadership that empowers teachers to take part in decision making process. Fullan (2006) argues that without distributing

leadership among teachers it is unlikely for school leaders to make educational change successful and sustainable, since it accelerates collective capability building to cope with change.

Re-configuring internal and external resources is crucial to meet the challenge of educational change. It was perceived from the findings of this study that some school leaders were trying to negotiate with external sources, while others preferred using available resources in innovative ways. Higgs and Rowland (2000) suggest school leaders negotiating with the key resource providers to get sufficient finance for school budgets as schools largely depend on external sources for resources. However, Wang and Ahmed (2007) claim that in order to re-configure resources, school leaders need to develop their innovative capability.

7.2 Reliability of the Study

There is a debate among researchers as regards using the term 'reliability' in qualitative research. Researchers who oppose using reliability in qualitative research argue that as reliability means the exact replicability of the processes and the results in quantitative research (Kirk & Miller, 1986; Rafuls & Moon, 1996), thus, it is challenging and epistemologically counter-intuitive to use reliability with the same meaning in qualitative research (LeCompte & Preissle 1993; Winter 2000; Stenbacka 2001; Golafshani 2003). Therefore, they suggest using other terms like credibility, consistency, dependability and trustworthiness while evaluating the quality of qualitative research (Lincoln & Guba, 1985; Stenbacka, 2001; Shenton, 2004).

However, Bogdan and Biklen (2007) argue that establishing reliability of the qualitative case study research does not necessarily require ensuring that the findings of one study agree with those of another study. Rather, it is necessary to ensure that there is consistency between what is collected as data and what exactly reveals in the case being investigated. I tried to meet this aspect of reliability by conducting a thorough and an appropriate literature review from which most

of my research and open-ended questions emerged. Patton (2015) argues that the credibility of qualitative study depends on the rigorous methods that are used in the study. Being mindful of this fact, I tried to comprehensively describe how the data was collected, the analysis was made, and the report was presented.

In order to ensure the reliability of this study, I initially used pilot testing of my research instruments with one of my participants to make sure that my questionnaire was understandable to my participants and appropriate to elicit the required information for my study. This pilot testing helped me to modify my questionnaire according to the feedback of the participant.

Franklin and Ballan (2001) assert that in order to ensure the reliability of qualitative research, researchers should stay close to the data when they support their findings about the phenomenon being investigated by including participants' quotations. I also demonstrated the reliability of my study by including quotations from the participants while discussing the findings of my study.

Moreover, reviewing this study by my peers and supervisor also contributed to the reliability of this study. I received intensive support and guidance from my thesis supervisor during the whole journey that enhanced my knowledge and competencies on the research process. I also received critique from my peers that broadened my understanding about the research phenomenon and the research process (Creswell & Miller, 2000; Cohen et al., 2013). Therefore, the above-mentioned techniques, followed in the whole research process, ensured the reliability of this study.

7.3 Generalizability, Applicability and Limitations

As regards generalizability, the findings of this study cannot be generalized to all educational organizations inside and outside Finland. It was a single case study that took place only in one region of Finland covering a few leadership representatives. Therefore, the capability challenges in times of educational change and the way of coping with change could be different depending on leadership per-

spectives and styles. It could also be dependent on contexts. However, as the requirement of the reliability of a single case study, this case study could be repeated in another region of Finland so that the findings of the newer study can be compared to the findings of this study. Moreover, as it was previously mentioned, my data mostly came from a reform-leading team working on curriculum reform. Since they worked in a big city and represented several schools of that city, their experiences and perspectives somehow represent the general situation of Finland in times of educational change.

There are several limitations of this study. The first limitation is to do with the data collection tool. Initially I had a plan to use in-depth interviews as a data collection tool. Yet, unfortunately, the participants of my study did not allow me to administer face-to-face interviews due to geographical distance and their hectic schedule. Hence, I was obliged to use web-based questionnaire as a data collection tool. Although using web-based questionnaire was convenient for both me and the participants in collecting data, the richness of the data may be questioned, since some participants explained their situation and shared their opinion in details, while others kept it as simple as possible. In some cases, a few participants did not answer some questions. Consequently, it posed challenges in developing codes and categorizes for data analysis. Moreover, because of using web-based questionnaire, I was neither able to ask supplementary questions to get more insights about the phenomenon under investigation, nor get clarification about their responses that was needed in some cases. Secondly, I expected that all of my participants would take part in my study. Unfortunately, some did not show interest in taking part in the study. Had I got responses from all of my participants, the data would have been much richer. Finally, the data would have been more insightful and reliable if teachers from these schools had been selected as the participants of the study. However, it was beyond the scope of this study.

7.4 Implications of the Findings of the Study

The aim of this study was to explore how dynamic capabilities are developed by educational organization and its leadership in order to cope with rapidly changing educational circumstances. To achieve this aim, attempts were made to explore school leadership's experiences and viewpoints in developing dynamic capabilities while dealing with rapid educational change. This study found that dealing with educational change certainly causes uncertainty and capability challenges to educational organization and its leadership, being required to develop their dynamic capabilities. After exploring leadership viewpoints on developing dynamic capabilities in times of educational change, this study found several contributing factors from both organizational and leadership perspectives that enable educational organization to cope with rapid educational change. Therefore, attempt was made to develop a framework integrating those contributing factors in order to enhance the understanding of developing dynamic capabilities in educational organization which is presented in Figure 4.

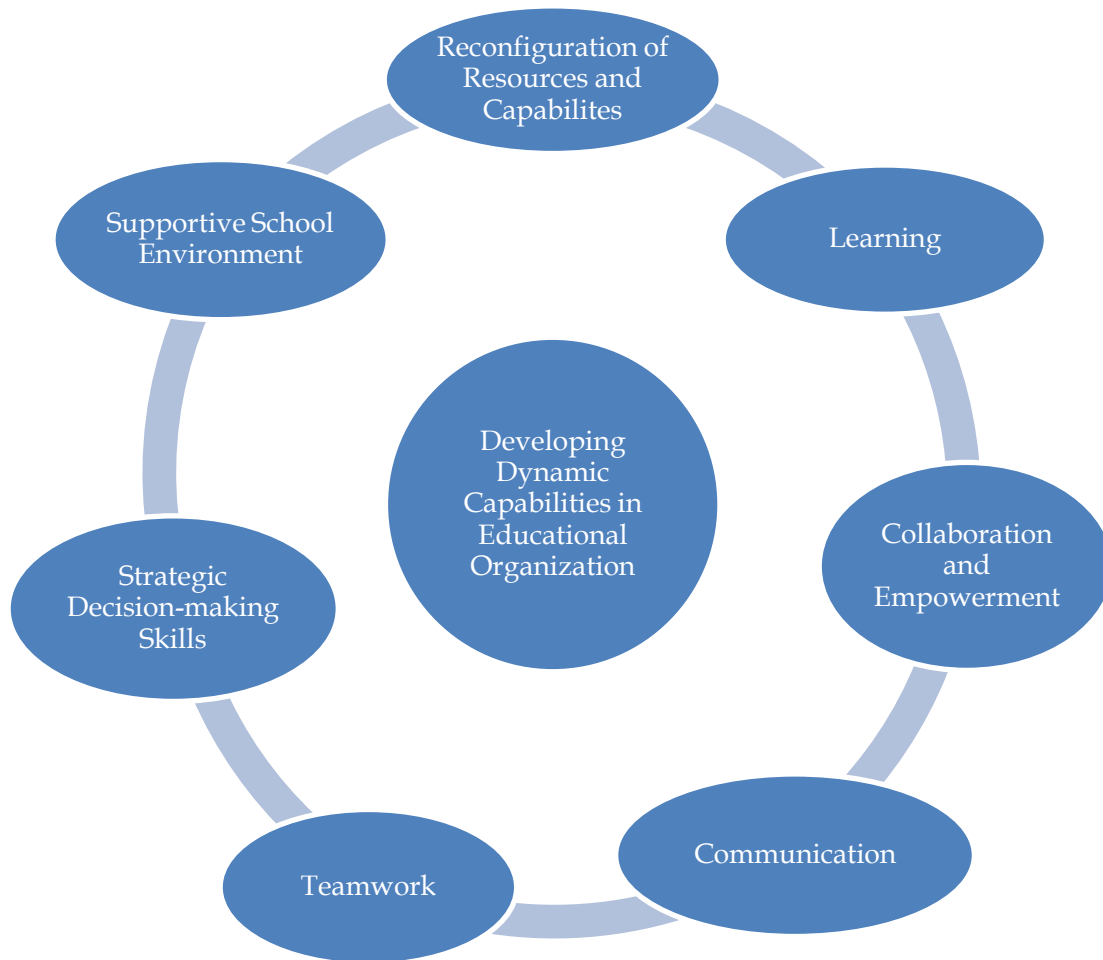


FIGURE 4. Integrated Framework for Developing Dynamic Capabilities to Deal with Educational Change

It is hoped that this framework, presented in Figure 4, will contribute to developing our understanding about the development of dynamic capabilities in educational organization. I expect that the findings of this study could give a guideline for educational organizations to develop their understanding of what dynamic capabilities are and how they can be developed to cope with rapid educational change. I also believe that this study is timely in the aftermath of curriculum reform in Finland.

It is evident from the findings of this study that the curriculum reform has brought about capability challenges to school leadership in reappraising resources, integrating technology, reconfiguring teaching and learning practices, and motivating teachers to take part in the change process. Therefore, this study

develops a framework based on the findings and suggests to the educational organization and its leadership following these strategies, presented in the framework, to develop their dynamic capabilities to respond to these capability challenges. For instance, most of the participants of this study complained about the insufficient financial resources to education that hindered the teaching and learning process according to the changing demands. Therefore, they asked for more financial resources. However, it was interesting to find out that some participants reconfigured their existing financial and human resources to cope with the change. This could be an example for those leaderships who face challenges in dealing with insufficient financial resources to meet changing educational demands. Reconfiguring resources is one of the significant components of dynamic capabilities that helps organizations to recombine their existing resources in new ways to meet the changing demands (Sirmon & Hitt, 2003). Consequently, this study suggests to leadership of educational organizations that they could reconfigure their resources rather than being dependent on external financial resources.

Moreover, in order to cope with educational change, this study found that it is crucial for educational organizations to modify their strategies and structure, reconfigure teaching and learning practices, update their existing professional knowledge and competencies, and, more importantly, motivate teachers to be involved in the change process. According to the findings of this study, it could happen through professional learning, external and internal collaboration, empowerment, meaningful communication, effective teamwork, strategic decisions and supportive school environment. Therefore, I believe that the findings of this study have implications for school leadership to develop their dynamic capabilities in order to cope with changing educational circumstances.

7.5 Suggestions for Future Research

As dynamic capabilities approach is a fresh study aim in educational field, I would recommend carrying out a more in-depth study on developing dynamic

capabilities in educational organization to explore it and investigate its role in coping with educational change effectively. In this case, future researchers who are interested in this phenomenon could carry out multiple case studies and use multiple research instruments to gain in-depth understanding about the phenomenon that was lacked in this study due to some inevitable constraints mentioned in the limitations of this study. Moreover, I would also recommend that teachers' viewpoints on this phenomenon be explored, since educational change also brings about capability challenges to them.

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APPENDICES

Appendix 1 Letter of Acknowledgement: Research Permit Request



JYVÄSKYLÄN YLIOPISTO
UNIVERSITY OF JYVÄSKYLÄ

Date: 04.05.2016


Ms Kazi Fatematuj Johara's research permit request

LETTER OF ACKNOWLEDGEMENT


This is to certify that Kazi Fatematuj Johara is a full time student in our Master's Degree Programme of Educational Leadership as of autumn 2012 and has completed all the studies as required, cumulatively circa 60 ECTS by the end of spring term 2015.

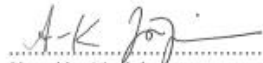
She is planning to write her Master's thesis on the topic 'Dynamic Capabilities in Finnish Schools: The viewpoints of School Principals', for which purpose she is contacting you to gain access to research data in your institution.

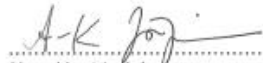
The research topic is fully acknowledged by our institution and the thesis is part of the Master's Degree Programme.


Leena Haltunen
Programme coordinator

Tel. +358-50-441 3677
Email: leena.halttune@jyu.fi



The permit to pursue data collection for the master's thesis has been given by me,  advisor
of the thesis on^{5th May}....., 2016


Signed by 1st advisor

Appendix 2 Cover Letter and Questionnaire

Dear Participants,

I am a student in the Master's Degree Programme in Educational Leadership, where I am writing my Master's thesis under the supervision of professor Aini-Kristiina Jäppinen, on the topic 'Dynamic Capabilities in Times of Educational Change: The viewpoint of School Leadership'. The term, dynamic capability, explains how an organization deals with two seemingly contradictory imperatives - stability, to continue to offer value in its own unique way, and adaptability, combining and restructuring internal and external organizational skills, resources and functional competences in the changing circumstances. The purpose of the study is to investigate how dynamic capabilities are developed and exercised by educational organizations as well as their leaders in order to respond to the changing educational circumstances.

In my study, I am using open-ended questionnaire as a data collection tool and I am requesting you to participate in this research study by answering the attached questionnaire at the time of your convenience. Your responses will be kept anonymous and confidential. I thank you for spending the time to assist me in my educational endeavors.

Please do not hesitate to contact me, if any additional information is needed.

Sincerely Yours,

Kazi Fatematuj Johara

email: kafajoha@student.jyu.fi

Questionnaire:

- 1 What kinds of changes have you been facing in your organization/school, for example, in terms of resources, school environment, teaching and learning practices, technology, curriculum etc.?
- 2 How does your organization/school cope with these changes?
- 3 What do you suggest your organization/school should do to manage the changing circumstances effectively?
- 4 What kind of role do you play as a leader of the organization in the changes?
- 5 According to your opinion, what kinds of competencies the leaders should have in the changes?