Emmanuel Nartey Ossom

External Networked Learning in Anticipating Change

The Case of a Finnish Vocational Educational Organization

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JYVÄSKYLÄN YLIOPISTO

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Tiivistelmä – Abstract

This study used qualitative single case study methodology to investigate how a Finnish vocational educational organization relies on external networked learning to identify weak signals useful for anticipating and leading change. Semi-structured interviews were used to collect data from seven leaders and a focus group of five teachers of the college.

Thematic analysis and thematic network analysis of data led to the discovery of ten principal themes which altogether answered all the four research questions and addressed the subject matter. The main stages of the management process of anticipatory networked learning in this college comprised the first five themes: the pre-involvement stage, the actual involvement stage, the post-involvement stage, organizational interpretation and action stage, and the constructive feedback stage. These have been depicted by a table and also translated into a five-stage flexible iterative model facilitated by the sixth theme: preparing to act on interpretation of information, and the seventh theme: organizational climate conducive to change. These first seven themes together produce holistic learning as the result of the management process of anticipatory networked learning which embraced the eighth theme: anticipating change versus reacting to change, the ninth theme: additional gains from external networking activities, the tenth theme: requirements of future leaders for the college, and the intelligence gathered at the actual involvement stage.

Data revealed that the organization was not sufficiently anticipatory in the past but has now improved tremendously. The college should continuously rely on external networked learning essential to continuously anticipate and lead change effectively.

Asiasanat – Keywords
Anticipatory learning, anticipatory social capital, anticipating change, collaborative learning, environmental scanning, leading change, networked learning, organizational interpretation, organizational learning, reacting to change, weak signals.

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JYVÄSKYLÄN YLIOPISTO

Tiedekunta – Faculty	Laitos – Department
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Tekijä – Author
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Tiivistelmä – Abstract

Tämä tutkimus selvitti laadullisella tapaustutkimusmetodilla, miten suomalainen ammattioppilaitos luottaa ulkoisista verkostoista oppimiseen tunnistaakseen heikkoja signaaleja, jotka ovat hyödyllisiä muutoksen ennakoinnissa ja johtamisessa. Tutkimusaineisto kerättiin oppilaitoksen seitsemän johtajan yksilö- ja viiden opettajan ryhmähaastatteluilla. Haastattelu oli puolistrukturoitu.

Aineiston teema- ja temaattinen verkostoanalyysi tuotti kymmenen pääteemaa, jotka vastasivat neljään tutkimuskysymykseen. Ennakoivaa verkostoista oppimista johtavan rosessin päävaiheet sisälsivät viisi ensimmäistä teemaa: osallistumista edeltävä vaihe, varsinainen osallistumisvaihe, osallistumisen jälkeinen vaihe, organisaation tulkinnan ja toiminnan sekä rakentavan palautteen vaihe. Nämä on kuvattu taulukossa ja muunnettu myös viisivaiheiseksi joustavasti toistuvaksi malliksi. Näitä viittä vaihetta edistää kuudes teema, valmistautuminen toimintaan informaation tulkinnan pohjalta, sekä seitsemäs teema, muutosta edistävä organisaatiokulttuuri- ja ilmasto. Em. seitsemän teeman tuottama holistinen oppiminen on tulos ennakoivan verkostoista oppimisen johtamisprosessista. Näistä seuraa kahdeksas teema: muutoksen ennakointi vs. muutokseen reagointi sekä lisäetuja ulkoisesta verkostoitumisesta (yhdeksäs teema). Kymmenes teema käsittelee vaatimuksia oppilaitoksen tulevien rehtorien ja varsinaisen osallistumisvaiheen aikana saadun informaation suhteen.

Tutkimusaineisto osoitti myös, että organisaatio ei ollut aiemmin ollut riittävän ennakoiva, että se on parantanut toimintaansa huomattavasti, ja että sen pitäisi jatkuvasti luottaa ulkoisista verkostoista oppimiseen, mikä on tärkeää muutoksen jatkuvan ennakoimisen ja tehokkaan johtamisen mahdollistamiseksi.

Asiasanat – Keywords
Ennakoiva oppiminen, ennakoiva sosiaalinen pääoma, muutoksen ennakointi, yhteistoiminnallinen oppiminen, ympäristön skannaus, muutoksen johtaminen, verkostoista oppiminen, organisaation tulkinta, organisaation oppiminen, muutokseen reagointi, heikot signaalit

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1   INTRODUCTION

The topic of this study was found from the response to a question I posed to a leader of a vocational education institution during his presentation about his organization. He told the organizational members learn from their external networks to anticipate change in their organization. This implies that the ambitions people have concerning the future of this organization drive them to engage in networked learning to accomplish them. After pondering, I became interested in deeply investigating this phenomenon in the context of this organization to enable me to better grasp the concepts of anticipating and leading change.

Organizations that are confronted with competition in turbulent and volatile environments are required to learn to survive, succeed, and to ensure organizational longevity (e.g., Montuori, 2000, p. 62; Senge, 1990, pp. 441-443). This organization does not only provide education to students, but it also operates as a business entity in order to be semi-financially autonomous. This suggests it also faces some sort of competition in its business, educational, political, cultural, and social environments, and must therefore learn continuously to be able to anticipate and lead change required to gain continuous competitive advantage. Attaining and keeping grips on the competitive edge requires organizations to openly handle their intellectual resources (Schiuma & Jarrar, 2004, p. 555).

Due to the multifaceted and multidimensional nature of this study, the purpose is to integrate theories about open systems, social constructivism, anomie, networked learning, organizational learning, and anticipating and leading change, and reacting to change, to investigate the behaviours of this college in relation to anticipating and leading change in general. Many studies on anticipatory management have focused

mainly on business management (e.g. Ashley & Morrison, 1997; Brown & Eisenhardt, 1988; Day & Schoemaker, 2006; Fulmer, 1993; Hamel & Prahalad; 1994 & 1999; Harper, 2000; Holbeche 2006; Leonard-Barton, 1995; Thompson & Strickland, 2003; Weick & Sutcliffe, 2007), but only a few studies on educational institutions (e.g. Fullan, 1999; Pritchett, 1990, Pashiardis, 1996; Holmes, MacElwee, & Thomas, 1995), with no specific anticipatory studies conducted in the sector of vocational education in Finland. This is a research gap that this study tries to fill because as Ashley and Morrison (1997, p. 47) posit, all organizations, whether businesses, schools, government agencies, or communities need to be anticipatory in order to gain great competitive advantage.

Moreover, the few studies conducted on networked learning to pursue change in organizations appear to have focused on solving already existing problems (e.g. Mohrman, Tenkasi & Mohrman, 2003; Jackson & Temperley, 2007) rather than designing answers to questions that would be asked tomorrow (Harper, 2000, p. 76). Different or similar anticipatory learning tools have been employed in the anticipatory management studies mentioned above, but none of them relied on external networked learning to anticipate change. This study is therefore seeking to contribute to filling this research gap by depending on external networked learning as a window to anticipate change. The benefits of anticipating change far outweigh those of reacting to change.

It is noted that it is often when organizations begin to experience a sudden and a rapid decline, and when their paradigms are in shambles that the need for change is realised (Holbeche, 2006, p. 160). McHugh and Brotherton (2000, p. 755) found the decision making of the organization they studied to be reactive, aimed at adapting to unexpected events instead of being proactive towards what was probably going to happen in the future. Anticipating change requires that an organization scans its environments to gather information about future change. Daft, Sormunen, and Parks (1988, p. 136) found that whereas high-performing companies perform frequent search of their external environments and cast their nets wide when doing so, low-performing companies do tunnel and erratic search of their external environments. This may explain why some organizations are exhibiting sterling performances while others are trailing and stagnating (Holbeche, 2006, p. 160).

While McHugh and Brotherton (2000, p. 763) acknowledge that a learning organization could be seen as a healthy organization, they argue that a healthy organization could also be seen as the competitive one in terms of its ability to attain an

appreciable level of fit with its environment. According to Hatch (1997, p. 103), the term 'fit' refers to a successful strategy in terms of the attainment of a match between what an organization can achieve and the needs and requirements of its environment. She sees the rationale behind strategic fit as bestowing unto an organization a competitive advantage that is critical for an organization's existence, profitability, and for it to be regarded. Formulating this strategic fit therefore calls for environmental scanning to gather the necessary information as per the future changes that an organization is bound to face.

The literature cited above on anticipating change has not shown any distinction between anticipatory management in the business sector and the non-business sector. This suggests that although different organizations anticipate different changes, the tenets of anticipatory management are, however, the same irrespective of the field. In this study, anticipatory management and managing anticipatory change are used interchangeably with anticipatory leadership and leading anticipatory change respectively. The scarcity of literature on anticipatory management in educational institutions prompted the majority of literature to be taken from the business sector for application to this study. But nevertheless, the majority of this business literature used is justifiable because as said earlier, this college is partly a business organization, which creates products and services to generate profit in order to meet part of its financial obligations.

Regarding the data for anticipatory management, Daft and Weick (1984, p. 286) state that the organization may either rely on formal means or personal contacts. But the constructivist organizational theory in relation to the co-construction of knowledge for the attainment of superior performance (see Vygotsky, 1978, pp. 85-86; Weick, 1995, p. 95) underscores the importance of collective generation of knowledge about future change (Hamel & Prahalad, 1999, p. 46). This justifies the relevance of the research topic and the chosen methodology.

The research problem this study seeks to tackle is: How does this vocational educational organization uses its external networks to anticipate and lead change? The specific research questions are: (1) Why is the vocational educational organization involved in external networked learning? (2) How is the vocational educational organization involved in external networked learning? (3) What intelligence has the vocational educational organization gathered from its external networks and how has it

been using it to anticipate its future? (4) What are the new emerging issues that alert the vocational educational organization the kind of future it should consider?

This study is a qualitative single case study. Using qualitative research paradigm to investigate anticipation of change in this case college is appropriate because for example, as Bogdan & Biklen (2007, p. 43) claim, it is suitable to use qualitative research method if a researcher seeks to acquire knowledge about how the process of change in a school is conducted and how the various members of a school go through change. I was convinced a single case study is suitable for my study because for example, Dyer and Wilkins (1991, pp. 614-616), assert that, getting deep contextual insights to present a good story of the phenomenon studied is best achieved by a single case study rather than by multiple cases. Semi-structured interviews were used to generate the data needed for this study.

In this study, thematic and thematic network analyses are used. Whereas thematic analysis entails the recognition, the analysis and the presentation of the dominant ideas within a data (Braun & Clarke, 2006, p. 79; Attride-Sterling, 2001, p. 387), thematic network analysis embraces using a web-like network to make it easier to organize and present a synopsis of these dominant ideas of the study (Attride-Sterling, 2001, pp. 386-387).

There is a demonstration of evidence by this study as to whether this vocational educational organization has been proactively seeking external data needed to formulate strategic fit required to anticipate and lead change, or if it has been reacting to change. It also confirms or disconfirms as to whether it is more beneficial to anticipate and lead change or to react to change. Moreover, it shows presence or lack of evidence regarding the importance of external networked learning to organizational learning.

This study comprises seven chapters. Chapter one stated above introduces this study: the empirical unit of my case, problem statement, motivation, aim, significance, research questions, justification for theories used, and methods of data analysis. Chapter two focuses on theories supporting external networking and anticipating change, theories about networking, and an overview of the strategic orientations to managing change. Chapter three focuses on the anticipatory change management process, comprising the preliminary anticipatory change management process, and the main anticipatory change management process. Chapter four presents the background of the empirical unit of my case and the context of this study, research methodology, and data analysis. Chapter five is about the results of data analysis and discussion. Chapter six

talks about conclusions of the findings of the study and implications for practice or policy, review of the quality of the study, and limitations of the study. Chapter seven entails recommendations based on the findings of this study.

2 THEORIES SUPPORTING EXTERNAL NETWORKING AND ANTICIPATING CHANGE

This study relies on the open-systems perspectives on organizations and the system thinking theory as meta-theories, which require that organizations interact with their environment to collect and piece together information to be able to effectively anticipate change. The rationales behind selecting these theories as meta-theories are based on the fact that information resident in the environment about future change is not available in a bulk but rather as disjointed puzzle pieces, which must be gathered and connected together to be able to see wholes rather than parts that are incomplete. Disjointed dots of information are not adequately informative and reliable for action. The identification of these dotted cues about future events in the external environments of organizations is only possible if organizations operate as open systems and rely on systems thinking.

This study treats the resource dependence theory and the social capital theory as subsumed in the open systems theory. Other theories adapted for this study are the constructivist organizational theory, and the Durkheimian network theory used in the study by Muijs, West, and Ainscow (2010, p. 7).

2.1 Open systems theory

Every organization is connected to its environment in a way necessary for its survival. The conception of organizations as organic systems endowed with the strong urge to exist and keep themselves as systems (Scott, 1987, p. 23), underscores the significance of the open systems theory in relation to the indispensability for organizations to engage in external networking through which they can acquire information and resources

necessary for their continuous existence. The open systems theory came into being as part of the intellectual ferment after the Second World War (Scott, 1987, p. 23), and with the major changes that rocked the theoretical paradigms of organizations in the 1960s, the open system perspectives received approval and unseated the closed systems models (Shafritz, Ott, & Jang, 2005, p. 476). Also Katz and Kahn (1966, p. 481) acknowledge the long existence of social organizations as open systems based on their observation that the input of energy and the transmutation of product into new energy input embrace undertakings between the organization and its environment.

Hendriks (1999, p. 99) argues that an increase in knowledge results from knowledge sharing, although he also admits that knowledge sharing can also inflict harm on knowledge. It seems the facing out of the closed system theory was in connection with two arguments found to be no longer tenable. One argument was that it viewed organizations as detached from their environments and consisting of a collection of stable and readily recognized actors (Scott, 1987, p. 23), and the other was that it made organizations treat their internal affairs as the only thing regarded as essential by management (Hatch, 1997, p. 76). Organizations operating as open systems might have been boosted with the advent of Information and Communication Technology (ICT). This is because Oviatt and McDougall (2005, p. 29) observe that low-cost communication technology and transportation make it possible for organizations to spot and exploit business opportunities in multiple countries. Hendriks (1999, p. 91) maintains that ICT can promote knowledge sharing by lessening temporal and spatial hindrances between knowledge workers, as well as increasing the means of knowledge acquisition.

The superiority and popularity gained by the open systems view of organizations over the closed system theory is substantiated as Shafritz et al. (2005, p. 476) argue that it treats organizations as "…systems of interdependent activities embedded in and dependent on wider environments". Pfeffer and Salancik (1978, p. 521) also maintain that no organization is entirely independent but is situated in an environment consisting of other organizations. Organizations are not cut off from their environments (Scott, 1987, p. 23; Hatch, 1997, p. 73), but are open to and rely on flows of both human and non-human resources from outside (Scott, 1987, p. 23). This also means that in this era of interdependence (see e.g. Senge, 1990, p. 441), an organization cannot function as a closed loop, i.e. self-regulating, but as an open loop, where it has to rely heavily on its external environments in order to survive (Goleman, Boyatzis, & McKee, 2002, p. 6). If

organizations are to continue to exist, they must influence actors to support them with resources, energy and time (Scott, 1987, p. 23). To gain this support requires that an organization connects with other organizations in its environments. This notion of open systems has led to theory and research shifting attention to the connections and mutual dependencies among organizations and their outside worlds (Shafritz et al., 2005, p. 476).

Unlike the classicalists who regard organizations as static entities, systems theorists see organizations as continuously changing processes of intercommunication among organizational and environmental elements, not static but constantly transforming (Shafritz et al., 2005, p. 476). This means that an organization's existence depends on its ability to cope with changes in its external environment, which manifests in the sense of organizations in turn taking decisions and actions that influence their environments (ibid, p. 477). In sum, a lack of interactions with the environment may lead to organizational failure to anticipate change.

The resource dependence theory associated with Pfeffer and Salancik (1978) has a connection with the open systems theory. This is because if an organization lacks resources but is cut off from its environment, how can it get resources to depend on? Pfeffer and Slancik (1978, p. 521) emphasize that the key to organizational existence is the capability to obtain and maintain resources. This theory also emphasizes that all organizations interchange resources with their environment required for them to exist (Shafritz et al., 2005, p. 478). Organizational survival makes it imperative that organizations as open systems are networked with their environment through which they can obtain renewing resources in order to quell their entropic process (Katz & Kahn, 1966, p. 485), and be self-maintaining (Scott, 1987, p. 82).

Hatch and Cunliffe (2006, p. 81) assert that organizations are vulnerable to their environments because the resources necessary for their existence, including intellectual capital, are regulated by the environment. Pfeffer and Salancik (1978, p. 522) state that organizations face crises not on account of their reliance on their environment, but because this environment is not reliable due to its tendency to be thrown into disequilibrium when new organizations enter and exit, which affects how much resource is available. By interacting with their environments, organizations can build relationships from which they can anticipate where these resources can be obtained cheaply beforehand for buffering.

In this study, social capital is viewed as that which can be created from both internal and external networks through both personal and professional network ties. This study treats social capital creation through external network contacts as also tied to the open systems view of organizations. If an organization remains an island, social capital creation from outside the organization, required to better understand external drivers of future change, is not possible. Nahapiet and Ghoshal (1998, pp. 251-254) identified three constructs of social capital: structural, cognitive, and relational. The structural construct of social capital is about how its various segments enable one to contact others for the exchange of information towards the nurturing of intellectual capital. The relational construct assists in the development of trust, common norms, obligations and expectations, and identification. The cognitive dimension of social capital acknowledges that knowledge and meaning are embedded in a social setting, and they can be accessed through exchanges and sharing in order to harness intellectual capital.

Lin (1999, p. 35) also sees social capital as containing three components: "resource embedded in a social structure; accessibility to such social resources by individuals, and use or mobilization of such social resources by individuals in purposive actions". Although existing literature does not give any specific definition of the social capital that we can rely on as a lens to anticipate change, this study considers this kind of social capital to be *anticipatory social capital*.

2.2   Systems thinking theory

> There is something in all of us that loves to put together a puzzle, that loves to see the image of the whole emerge. The beauty of a person, or a flower, or a poem lies in seeing all of it. - Peter Senge (1990, p. 441).

It is a truism that anticipating change is something inherent with uncertainties, but with systems thinking, these uncertainties can at least be reduced. Senge (1990, p. 441) states that systems thinking is the answer to the uncertainties and complexities we face in this era of interdependence. Systems thinking embraces perceiving wholes rather than parts (Gharajedaghi, 2007, p. 476; Senge, 1990, p. 441; World Health Organization (WHO), 2009, p. 33). Seeing wholes places us in a better position to promote the health of our organizations (Senge, 1990, p. 441). Since organizations are open systems, a change in one part of them may invariably affect other parts, and this makes it essential that

systems thinking take precedence over change in any part of a system or even changing an entire system.

Systems thinking demands an in-depth insight into interdependencies, interactions, processes of change and not static synopsis of change, and behaviours among the components that constitute the whole system (Senge, 1990, p. 441; WHO, 2009, p. 33). These requirements make it impossible for organizations to remain internally focused and detached from their environments, whose demands unavoidably play into their internal affairs. In relation to systems thinking for future change, Mullins (2009, p. 42) notes that futurists are adept at spotting links in disjointed dots of information that frequently symbolize clues of up and coming trends, and detecting them enables futurists to predict probable and alternative futures. Fullan (2005, p. 29) argues that systems change is achievable if organizations have systems thinkers, that is, people who can think outside the box. If more people become systems thinkers, it can lead to the relinquishing of unproductive individual and organizational cognitive models, which can pave way for the change of the entire system for the better (ibid, p. 40).

Being oriented to systems thinking commences with having a grasp of the notion of feedback, which entails looking at how actions can reinforce or offset each other (Senge, 1990, p. 442). According to him, once feedback is done, systems thinking becomes a rich language for depicting a huge bunch of interdependencies and patterns of change. He finally argues that systems thinking simplifies life by making it possible for us to gain insight into the deeper patterns situated behind events and their pros and cons. I find three of Fullan's (2005, p. 43) contributions to Peter Senge's (1990) idea of systems thinking relevant to this study: (a) systems thinking is not a mere cognitive effort for us to see the whole picture and long-term trends, but is done with the aim of gaining insight into the system and transforming it for sterling performance, (b) it requires that given individuals and organizations appreciate and focus on the larger system as well as allowing transactions between them and those in their external environments, and (c) systems thinking can produce the desired results if it is not treated as the duty of only specialists but a collective responsibility of both new and rising leaders. Ignorance or downplaying systems thinking is tantamount to invitation of crises.

Senge (1990, p. 441) mentions systems breakdowns accounted for many ills such as global warming. He also claims that organizations break down irrespective of

their individual competence and innovative products because they lack the capability necessary to pool their wide range of functions and talents into a useful whole. He blames this unhealthiness in our systems and world today on our inability to see them as wholes. An organization that seeks to perform better tomorrow must endeavor to see future changes as wholes rather than snapshots. I see reacting to change often as the result of not seeing wholes in anticipating and leading change.

2.3 Constructivist organizational theory

Organizations as sensemaking entities have the ultimate aim of inventing and detecting events that reappear to make their worlds stable and predictable (Weick, 1995, p. 170). This means that only events that look like what was experienced before in the past are deemed to be necessary (ibid, p. 170). The implication is that events that are occurring for the first time and which may fall outside the confines of our pre-existing schemas might be downplayed. Brushing aside an event because it is not captured by our pre-existing schemas might lead to our organization being blindsided.

Pritchard and Woollard (2010, p. 11) argue that in case new data are not captured by our pre-existing schemas, it behooves on us to either add the new data to them or modify them to make room for the new data. This indicates that organizational schemas either have limitations or could be outdated. Not adding new data to organizational schemas or not revising them to permit entry of new information can render them inconsistent with the changing times. As a consequence, the organization becomes a victim of change. Pritchard and Woollard (2010, p. 11) define that schemas grow continuously.

Disregarding an event because of its inconsistency with our pre-existing schemas might be an indication of what Levinthal and March (1993, p. 97) describe as *simplification* and *specialization* which are the two main approaches organizations rely on to make it easier to draw lessons from their past experiences. According to them, whereas *simplification* concerns learning processes with the aim to "…simplify experience, minimize interactions, and restrict effects to the spatial and temporal neighbourhood of actions", *specialization* describes learning processes that dwell on limited scope of competence. Although *simplification* and *specialization* raise organizational performance, they also impose restrictions on performance that culminate

in three forms of organizational myopia (ibid, p. 101). The first is the focus of organizational learning on the short run survival of the organization rather than the long run, which throws the long run survival of the organization into jeopardy. The second dimension of this myopia is organizations' reliance on their immediate environments to inform organizational learning rather than on a larger picture. As a consequence, the continuous existence of more encompassing systems is occasionally plunged into chaos. The third aspect of myopia is the inclination to sweep failures under the carpet, whereby lessons drawn from success are credited to organizational learning, relegating the risks of failure to the background. Consequently, organizational myopia is an obstacle to achieving a state of organizational utopia, hence the need for a social construction of reality in external networks that comprise actors of different schemas and backgrounds.

Organizational myopism is justified by the issue of bounded rationality. Simon (1991, p. 132) describes bounded rationality as our cognitive limits that do not allow us to make optimal or satisfactory adjustments to a knotty environment. Daft and Weick (1984, pp. 285-287) call this feature an organization's own perception of reality. In view of this, organizations in networks could complement each other in reducing their bounded rationalities for a better understanding of today's impact on tomorrow's environmental complexities.

The challenges of myopism, limited or outdated schemas, and bounded rationality facing an organization that do not allow it to effectively deal with complexities it faces from its external environment, necessitates social construction of reality. The essence of social constructivism was demonstrated in the studies of Vygotsky (1978, pp. 85-86) which revealed that individuals can execute certain tasks that correspond with their *actual development level*, but tasks that are higher than this level require collaboration with others or assistance from others who are more capable to help them reach the *zone of proximal development* (ZPD) at which such higher tasks can be performed. Given the level of environmental complexities confronting organizations, their individual efforts might not suffice in tackling issues pertaining to future change, and therefore need to collaborate with others. There is advocacy for and evidence in support of social constructivism.

Muijs, West, and Ainscow (2010, p. 10) argue that the constructivist organizational theory can be tied to efforts aimed at transforming schools into learning communities based on the reasoning that from the perspective of the constructivist, doing so collaboratively in networks, leads to the attainment of better results than if

schools were to function independently. The study by Mohrman et al. (2003, p. 321) attested to the fact that fundamental planned change and social networks can not be decoupled because conceptual frames are fixed in communities, and can be accessed and preserved through collaborations.

2.4 Avoidance of future anomie

Anomie/anomy refers to the absence of social or moral rules in a person or society (Collins English Dictionary, 2003, p. 66). Other than a historical perspective, anomie concerns the difficulty of regulating social issues in a social system (Horton, 1964, pp. 285-286). According to Horton, all meanings of anomie are centered on a social state characterized by the absence of norms or laws and the presence of chaos. Thus an anomie invariably refers to how individuals relate to the restricting forces of social rule (ibid, pp. 285-286).

Durkheim (1972, pp. 173-177) writes about anomie as arising from the unquenchable, limitless, and too high desires of the human being, but which cannot be met, and as a result throw him/her into a state of malaise and predicament that could even culminate into death. For Durkheim, allowing ourselves to be governed by moral rules would have been ideal in moderating our desires in life. He noted that the human being's lack of voluntarism in doing this requires that an authority, whose superiority is regarded, be put in place to tell fellow humans to learn to be satisfied with their lot and to have no right for more. In a similar vein, Bolman and Deal (2003, p. 210) state that people accept guidance based upon seeing those in authority as believable, capable, and sensible.

Muijs et al. (2010, p. 12) claim this general idea of anomie is applicable to schools embroiled in chaotic situations and change but inadequately connected externally, and are required at the same time to make efforts to achieve a fit between the importance of inclusiveness and social justice in order to be competitive and perform well. They see schools not living up to expectation as they are often displaying the symptoms of anomie indicated by Durkheim. For this reason, they see networking as not only traditionally capable of helping schools perform better, but benefiting schools in terms of eradicating anomie.

2.5 Definition of network

The notion of networks has been in existence for ages, but not much is known about it (Lieberman, 1999, p. 1). The network concept is not clearly defined (Jackson & Stainsby 2000, p. 11; Johanson & Vahlne, 2003, p. 92), but its popularity is growing in the scholarly literature (Jackson & Stainsby 2000, p. 11). Hadfield, Jopling, Noden, O'Leary, & Stott (2006, p. 5) define networks as "groups or systems of interconnected people and organizations (including schools) whose aims and purposes include the improvement of learning and aspects of well-being known to affect learning". A network is also defined as a "structure where a number of nodes are related to each other by specific threads" (Håkansson & Ford, 2002, p. 133). The nodes or knots in relation to this study represent colleges, schools, and industry, while the threads represent the linkages between them (see e.g. Håkansson & Ford, 2002, p. 133; Jackson & Temperley, 2007, p. 50).

The common denominator of these two definitions of a network hinges on the fact that it may involve individuals, groups, and organizations, or all of these that are connected for various reasons. I find the definition by Hadfield et al. (2006, p. 5) suitable for this study in that they stress on a network functioning for the reciprocity of learning between the actors involved. In adapting this definition to this study, the purpose pursued in networks is to exchange ideas, benefit from sharing of ideas, and to co-construct knowledge aimed at fixing answers today to questions that will be asked in the future.

2.5.1 Motives behind involvement in networks

Networks exist to fulfill the goals and aspirations of actors: Lieberman acknowledges that as networks start small, they grow to reflect the growing needs, desires and visions of the actors involved. But different people may have different reasons for the formation of networks, or participation in network activities. Despite the fact that different reasons drive people into networks, Lieberman claims that all networks focus on seeking to work together, to establish consensus and devotion to continuous learning. (2005, p. 223) According to Muijs et al. (2010, p. 7), the first aspect of differentiating between networks is based on goals and activities. They define the present nature of network goals in education as concerning the realization of raising the performance of schools, expanding opportunities, and resource sharing. Other motives that prompt

organizational networking include learning, sharing risks, political advocacy, and organizational legitimization (Galaskiewicz, 1985, pp. 282- 288; Gulati, Nohria, & Zaheer, 2000, p. 203; Shafritz, Ott, & Jang, 2005, p. 476). However, participation in networks is also fraught with some disadvantages.

Contrary to the risk-sharing dimension of networks, research shows the existence of *social loafing* in networks; a phenomenon where some actors do not want to make any input into the risk-sharing element (Morris, Bessant, & Barnes, 2006, p. 553). Gulati et al. (2000, p. 203) assert that networks also have the disadvantage of holding firms captive to unbeneficial relationships, or preventing entry into relationships with other useful organizations. An evidence of this was the finding by McHugh and Brotherton (2000, p. 762) that a supplier organization was locked in a relationship with one powerful customer so that it had no choice other than to succumb to the continuously increasing strict demands of this customer which could even have abandoned this supplier anytime it found a more suitable supplier. This dependent relationship did not permit the supplier organization to browse its external environment to inquire about how to make more informed decisions (ibid, p. 762). The risk of being held captive to one relationship emphasizes the importance for organizations to be involved in as many useful network relationships as possible. Avoidance of becoming vulnerable to captivity in network relationships is hinted when Gulati and Gargiulo (1999, p. 1439) argue that though firms network to lay hands on critical resources, they figure out who is suitable to cooperate with by depending on data from the network of prior alliances. Another way to ward off susceptibility to captivity in networks is demonstrated by Child and Faulkner (1998, p. 48), as they posit that calculative-driven trust is likely to be tied specifically to new relationships. New ones should only take off if institutionalized protection needed to deter opportunistic behavior is agreed upon, or if the partner is prestigious (ibid, p. 48).

2.5.2   Networked learning

Networks could be platforms to unlearn old things and learn new things to anticipate change: Tsekouras, McGovern, and Brady (2006, p. 3) stated that learning through networks does not only make it possible to share expenses and resources, but also serves as a platform to access new ideas and to bring people's assumptions under scrutiny so as to see if there is the need to give way to new views.

Three definitions of networked learning are considered in this study. The first is that by the Center for Studies of Advanced Learning Technology (CSALT) group at Lancaster University (2012), which defines networked learning "….as the learning in which information and communication technology (C&IT) is used to promote *connections*: between one learner and other learners, between learners and tutors; between a learning community and its learning resources". Although this first definition lays emphasis on connections between learners and the resources needed for learning to take place, it is somewhat obscure in the sense that it does not mention the specific purpose of the learning that takes place. People in networks can learn from each other anytime, but not everything they learn is based on a specific purpose.

Secondly, "networked learning takes place when individuals from different schools in a network come together to engage in a purposeful and sustained development activity informed by the public knowledge base, using their own know-how and co-constructing knowledge together", depicted by the "three-fields" learning model (Figure 1) (Jackson & Temperley, 2007, p. 48).
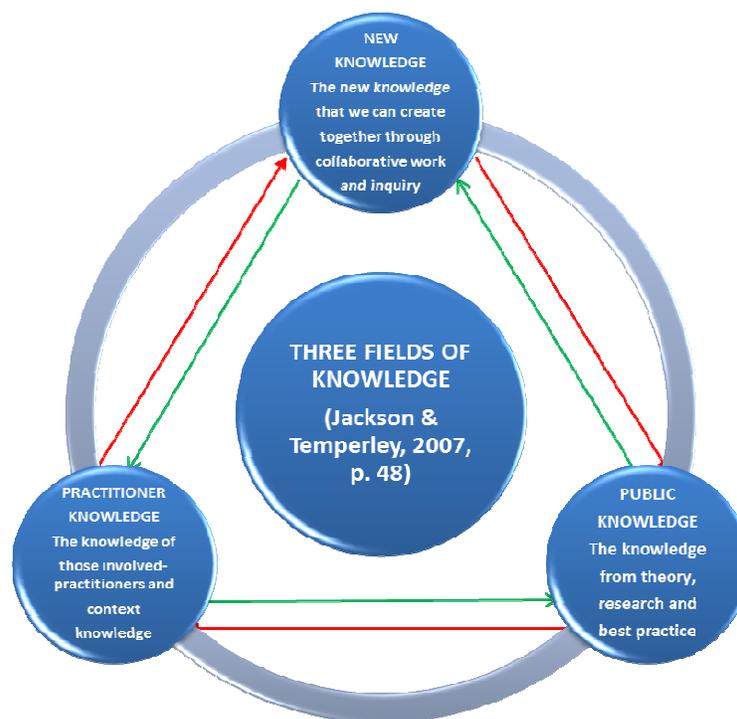
FIGURE 1. Three fields of knowledge (Jackson & Temperley, 2007, p. 48)

According to Jackson & Temperley, (2007, p. 50), the networked learning model embraces threads, knots and nets as shown in Figure 2. The threads connecting these

network units represent the requisite relationships, communication and trust needed for networked learning to occur. The knots stand for the task that the actors collaboratively perform on their own behalf and on behalf of their schools and organizations.

2. Network partner schools   1. The growth of threads and
                                          knots
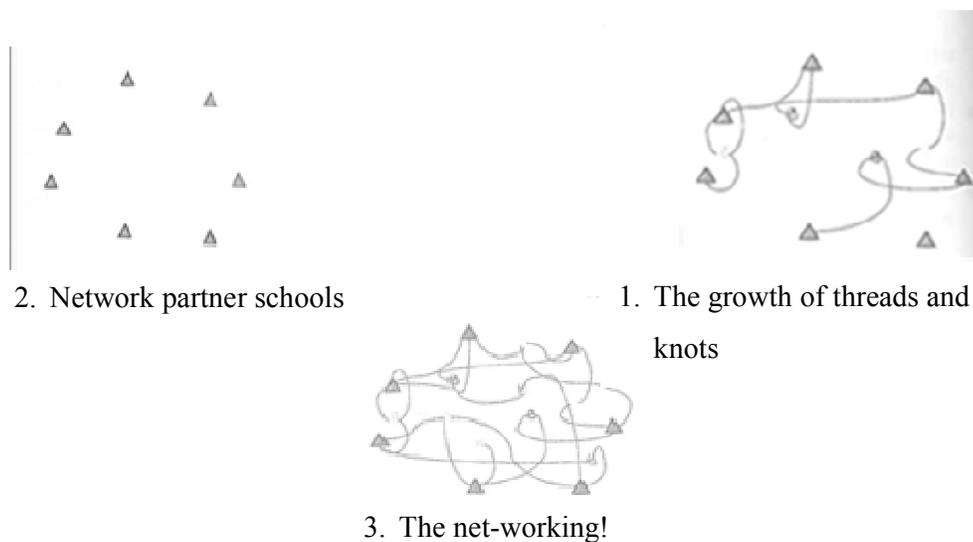
3. The net-working!

FIGURE 2. Threads, knots and nets (Jackson & Temperley, 2007, p. 50)

Jackson and Temperley (2007, pp. 48-49) posit that the networked learning activity engages actors in four separate learning processes: learning from one another, learning with one another, learning on behalf of, and meta-learning. They emphasize 'learning on behalf of' others to be of special significance to the idea of networked learning. According to them, in the context of schools, networked learning is the interplay of two types of learning: learning transpiring between individuals from different schools, and thereafter taking along with them what they have learnt to be shared with the members of the actors' schools. Mohrman et al. (2003, p. 312) found from the companies they studied that their social networks constituted both the source of learning and frequently formed part of the components of the change they undertook. Schools' receptiveness to flow of knowledge from other schools and from the public knowledge system is critical for an excellent organizational learning to occur (Jackson & Temperley, 2007, p. 45).

The third definition considered by this study was framed by one of the gurus in networked learning, David Jackson (2004), in his paper for the International Congress for School Effectiveness and Improvement (ICSEI) conference, 'Building Bridges for Sustainable School Improvement'. This definition was quoted by Hadfield (no date) as follows: "Networked learning is a unique form of lateral engagement (between schools

and networks) required for effective network and system learning". "Networked learning is at the heart of collaborative capacity building. It occurs where people from different schools in a network engage with one another to enquire into practice, to innovate, to exchange knowledge, and to learn together. Unlike 'networking', perhaps, networked learning doesn't happen by accident and, in order to happen by design, alternative organizational patterns, new professional relationships and different forms of facilitation, intervention and brokerage are required" (Jackson, 2004, p. 2), in Hadfield (no date). The enquiry component in this definition suggests that new knowledge creation to anticipate change is not just based on practitioners' knowledge and public knowledge, but on a discovery of credible information from the external environment. The implication is that these two types of knowledge are employed as tools to conduct enquiry in terms of scanning the environment to gather information needed to create anticipatory knowledge (new knowledge) required to create a desired new future.

The three definitions above focus on the relational view of learning, whereby learning occurs in connection with others and in connection with a bunch of resources (see Jones & Esnault, 2007, p. 1). These definitions suggest that every networked learning activity is informed by the actors' own know-how and the public knowledge base.

This study finds the second and third definitions more suitable because the co-construction of knowledge is purposive. Thus individuals come to the learning situation with a predetermined goal. This indicates that people will be committed to the learning situation to ensure that effective learning takes place. Moreover, the third definition talks about features of organizing needed to facilitate the collaborative generation of new knowledge based on enquiry.

Yet, although these second and third definitions are more suitable for this study, they are not up to the task of what my study seeks to accomplish. Though the above second and third definitions of networked learning constitute the focus of this study, the learning occurring between individuals from different schools appears to be ambiguous because it is not specified whether the focus is on adaptive learning or anticipatory learning. Both adaptive and generative learning are necessary, but whereas adaptive learning is done to react to environmental complexities, generative learning focuses on innovative ways of viewing the world for better results (Senge, 1998, p. 413). Obviously, my interpretation of what Senge calls generative learning is the equivalence of anticipatory learning.

I contend that if Jackson and Temperley's (2007, p. 48) networked learning model is focusing on learning to cope with present problems, then by the time the solution would be constructed, the problem would have escalated and the solution would have even outlived its usefulness. The avoidance of this non-timely solution to a problem requires focus on anticipatory learning. This prompted this study to focus on anticipatory networked learning with the aim to postulate a model of *the management process of anticipatory networked learning*, as an attempt to contribute to filling this research gap. Accordingly, based on the above three definitions, this study defines 'anticipatory networked learning' as *network actors using their public knowledge-base, their own know-how, their anticipatory prowess (ability to enquire into future change), and other resources, to engage in anticipatory learning so as to collaboratively create new knowledge needed to address future change*.

The success of purposeful networked learning depends on a number of factors. Jackson and Temperley (2007, p. 51) remind us that the absence of trust and effective communication will lead to the non-emergence of networked learning relationships. The essence of communication in networks is corroborated by Cheney, Christensen, Zorn Jr., & Ganesh (2004, p. 157) stating that network connections are generated by the means of people interchanging for example thoughts and ideas, and developing relationships. Trust is believed to be built over time and therefore it must be nurtured to a sufficient degree to permit any in-depth learning to occur (Håkansson, Havila, Pedersen, 1999, p. 444). Morris et al. (2006, p. 548) found that people in learning networks are at the beginning unwilling to be open and share what they know if they perceive co-actors to be rivals until such a time when a sufficient amount of trust is developed. This is when they willingly enter into a sort of 'give and take' relationship even with sensitive matters (ibid, p. 548).

It is observed in business networks that there will be no need to build trust between two or more parties seeking to undertake a joint activity if the susceptibility to the risk of opportunism is absent (Chiles & McMackin, 1996, pp. 85-90). The presence of trust restrains opportunistic behaviour, bringing economic benefit by reducing or avoiding the expense of painstaking costly safeguards against it (ibid, pp. 85-90). Child and Faulkner (1998, pp. 46-47) contend that if trust prevails as part of partnerships, it will make the networking more authentic, decrease the necessity to devote time and energy to monitoring the other partner, and help the partner to invest his/her attention

and energy into realizing longer-term results of benefit to both partners. Thus trust is indispensable for effective networked learning to occur.

2.6 Overview of strategic orientations to managing change

In a rapidly changing environment, an organization may take one of three positions on a continuum of lowest to highest level to manage change (Brown & Eisenhardt, 1988, pp. 4-5). This continuum displays *reacting to change* as the lowest to *anticipating change* as the intermediate level to *leading change* as the highest level (ibid, pp. 4-5). However, the borderline between anticipating and leading change appears to be indistinct, and therefore, in this study, anticipating change could mean leading change and vice versa. Thus future-mindedness describes both anticipating and leading change. Later in this chapter, there is a focus on the anticipatory management process since the focus of this study is anticipating change.

2.6.1   Reacting to unanticipated change

Lack of future-mindedness by managers suggests that they are busy with restructuring and reengineering. Neither of these is out of place, but is largely concerned with handling the affairs of present business rather than anticipating and leading change. (Hamel & Prahalad, 1999, p.33.) Whereas restructuring is aimed at solving mistakes already committed, reengineering is primarily about catching up with rivals (ibid, p. 33). This shows the behaviour of a non-competitive organization that cannot perform satisfactorily.

Though reaction is not the best approach to change, it is necessary because if an organization's capability to react to change falls short of the speed of change in the external world, a vacuum dangerous to the future of the organization is created (Cae, 2009-2010, p. 4). This underscores the importance of an organization to be resilient when confronted with unexpected events. Reacting to an unexpected event requires the application of the principle of containment - comprising *commitment to resilience* and *deference to expertise* (Weick & Sutcliffe, 2007, p. 65). Unlike anticipation, containment means to forestall an undesirable consequence that may follow an unexpected failure (Hollnagel, 2004, p. 7). Hargreaves and Shirley (2009, p. 74) define resilience as having the ability to recover from adversity. What commitment to

resilience means to High Reliability Organizations (HROs) is that they also make errors but they have a benchmark of bouncing back after they are struck by errors; thus errors that befall them do not plunge them into demise (Weick & Sutcliffe, 2007, pp. 14, 71).

The second dimension of containment is *deference to expertise*. Notwithstanding that decision making is the preserve of the frontline, HROs are very much informed that hierarchical positions are not a reflection of expertise and, therefore, move to the people with the outstanding expertise in detecting and addressing errors irrespective of what position they occupy (Weick & Sutcliffe, 2007 pp. 15-16, 74). Day and Schoemaker (2006, p. 144) confirm that employees at the lower levels in an organization may be those who have the understanding of external changes. Reaction is therefore an inherently indispensable dimension of anticipating future change to help organizations remain resilient and continue to operate. Timely and effective reaction requires some sort of advance preparation.

2.6.2 Anticipating change

Anticipating change could be challenging to all organizations. This notwithstanding, managers have a choice between having the foresight for change and take the appropriate corresponding action or oppose the need to change, till they are compelled to subject their organizations to structuring in order to merely exist (Ashley & Morrison, 1997, p. 48; Holbeche, 2006, p. 159). Hamel and Prahalad (1999, p. 49) contend realizing a particular future is a function of foresight instead of vision. They posit that any 'vision' that does not depend on a concrete basis will probably be an illusory. On account of this, they define foresight as the fusion of the visions of scores of people. Hodson (2003, p. 648) also argues that it is possible to be sure that the science education curriculum will not remain the same in a matter of 25 years from now, but whereas only a fool will foretell the path of that change, the wise will figure out a number of elements that will prompt that change.

Evidence from the study by Thompson and Strickland (2003, p. 263) indicates that organizations performing appreciatively well in rapidly changing environments constantly set the pace for change by relying on proactive approaches. Hamel and Prahalad (1999, p. 34) assert that proactive orientation to change is better than being reactive to change, and they therefore advice senior executives not to cogitate about tomorrow only when their current achievements are gone, but must be a step ahead of

their industry change curve by keeping themselves busy with scouting for future opportunities and exploiting them.

Anticipation is also a mechanism to protect an organization from competition, but unlike reaction, anticipation of change results in the emergence of novel advantages for an organization, and therefore, supersedes reaction to change (Brown & Eisenhardt, 1988, p. 4). Remaining competitive and putting up excellent performance in any sphere of life means that we make the most of our present competences, and at the same time nurture new ones in looking forward to tomorrow (Abell, 1999, pp. 73-74). Thus an organization must not only focus on sustaining its current competitive advantage but simultaneously be competing for a future competitive advantage since no condition is permanent.

Systems that spend time tackling present problems suggest they have a small amount of time to be innovative, but with the capability to foresee and look forward to the future, an organization has chances to gain (Ashley & Morrison, 1997, p. 50; Harper, 2000, p. 75). However, organizations would have no choice than to wait and react to unexpected events if they lack the capability to anticipate change. Day and Schoemaker (2006, p. 149) argue that organizations well vested in peripheral vision have formidable competence in knowledge systems, especially, the detection of emerging issues, and are able to circulate this information across the confines of the organization. Pashiardis (1996, p. 7) also points out that organizations should have scanners who should keep in mind that the purpose of their scanning is to look forward to social, economic, technological and legislative reforms towards making planning easier. This further confirms that anticipating the future is based on identification of clues rather than a mere prediction.

2.6.3   Leading change

Leading change is about being a pacesetter. It embraces setting the pace for change; thus being the first to establish a product or service market to challenge others to respond (Brown & Eisenhardt, 1988, p. 5). It also entails moving in advance of change or even fixing new requirements of doing a particular business (ibid, p. 5). Leading change requires us to ask whether what is achieving results today will continue to be effective tomorrow (Spiro, 2011, p. 3). He admits leading change is a phenomenon of many parts but it can be well handled when divided into eight practical steps: determine your change strategy, assess readiness, analyze the stakeholders, minimize resistance,

secure a small early win, engage the key players in planning, scale and sustain the change strategy, and build in ongoing monitoring and course corrections (Spiro, 2011, pp. 5-6). Unlike reacting to change and anticipating change, leading change is a vexatious mechanism intended to leapfrog an organization into the driver's seat (Brown & Eisenhardt, 1988, p. 5; Thompson & Strickland, 2003, p. 263).

Although numerous benefits may be derivable from being the first to get to the future, some schools of thought contend that it is more advantageous to become a quick follower than to be the first to chart an unknown project (Hamel & Prahalad, 1994, pp. 177-179). According to them, this notion hinges on two presuppositions that must both be scrutinized before deciding to allow competitors to pioneer any particular future. The first presupposition is that pioneering anything inherently comes with risks. The second assumption is that the pioneer will at all cost stumble and thereby make it possible for a follower who is widely-awake to get hold of the benefit thereof and get away with it. In their view, pioneering the future to grab the pay offs thereof requires three things: ensuring associated risks do not match up to the pay offs, creativity in tackling the accompanying risks, and thirdly, refraining from underrating the commensurate or bigger risks of shying away from spearheading the future.

Hamel and Prahalad (1994, p. 179) concluded that pioneering the future is not about being the first to get to the future in any absolute sense, but being the first to get to the future to make a remarkably beneficial impact.

3 ANTICIPATORY MANAGEMENT PROCESS

In this study the anticipatory management process is divided into two main sections. The first is the preliminary anticipatory management process, and the second is the main anticipatory management process. Table 1 sums up the major parts of each process to illustrate the discussion to follow in this chapter.

TABLE 1. Stages and parts of anticipatory management process

Stages	Part 1	Part 2	Part 3	Part 4	Chapter
1 Preliminary anticipatory management process	Definition of anticipation	Retrospective and anticipatory learning	Anticipatory learning tools	Principles of anticipation	3.1
2 Main anticipatory management process	External networks as means for external environmental scanning	Organizational interpretation of gathered data	Managing resistances and anxieties for successful learning	Action on interpretation of data, i.e. organizational learning	3.2

3.1 Preliminary anticipatory management process

This comprises the definition of anticipation and its importance, retrospective and anticipatory learning, anticipatory learning tools, and principles of anticipation. An organization must first understand the concept of anticipation in order to be encouraged to embark upon anticipatory management process and to be able to do it effectively.

3.1.1 The definition of anticipation and its importance

Several definitions of anticipation exist, out of which this study writes about three. Firstly, Brown and Eisenhardt (1988, p. 4) define anticipation as having the grasp of what is probably going to happen and girding your loins for that future. Secondly, anticipation means making your organization take a lead start (Harper, 2000, p. 75). Thirdly, to anticipate means to have the foresight and the conception of a consequence emanating from certain signals not yet addressed. To anticipate is to be conscious of particularly three elements: failure, simplification and operations. (Weick & Sutcliffe, 2007, p. 45.) Anticipation goes beyond discernment of an identified small cue to include an effort to halt the emergence of an unwelcome event (ibid, p. 45).

I infer from these above definitions that anticipation entails three main basic steps: the first step is to identify a small cue about a future event, the second step is to unravel the big picture behind this small cue, and the third step is to prepare to thwart any undesirable eventuality that may unfold from this cue, or prepare to exploit the opportunity that may be behind this cue. Accordingly, this study defines anticipation *as a display of vigilance in detecting today a small cue about a future event, discerning the big picture behind this small cue, and preparing to prevent the disaster behind it, or preparing to benefit from the exploitation of the opportunity behind it*.

Ashley and Morrison (1997, p. 47) contend that since no organization, including schools is immune to the consequences of failure to anticipate change, the question that needs to be answered for organizations to benefit from anticipation is: "What is the secret to developing anticipatory prowess, and how do you use it to gain strategic advantage?" An absence of anticipatory orientation in any system can be catastrophic (Ashley & Morrison, 1997, p. 47; Hamel & Prahalad, 1994, p. 29; Harper, 2000, p. 76).

But this disaster could be avoided. Ashley and Morrison (1997, p. 48) argue that the significance of management is to pursue change, which behooves on us and our organizations to be well vested in connecting information from the events in the outside world to developments within our organizations, for the purposes of ensuring our existence and to make progress in the future. Highly performing executives on account of their anticipatory behaviours distinguish themselves from middle-level managers (Harper, 2000, pp. 76-77). Whereas a bunch of managers use their time to devise antidotes for current problems, the more advanced executives fasten their attention upon searching for questions that will be posed in the future, which offers them ample time to

fix the right answers beforehand (ibid, pp. 76-77). To give an example, GM disregarded signals in the late 1960s about a possible energy disaster, as well of the growing preference for small, fuel-friendly Japanese cars until not heeding to these signals translated into the erosion of close to 30% of GM's U.S market allocation (Ashley & Morrison, 1997, p. 47).

The unforeseeable is the greatest menace an organization may face, but a possession of a formidable *peripheral vision* helps to establish an idea about it and to look forward to opportunities (Day & Schoemaker, 2005, pp. 133-135). Peripheral vision is a superior capacity to identify and deal with emerging issues from the external environment well ahead of time (ibid, pp. 133-135). Research shows that organizations that continuously experience lower than the disasters that should have befallen them appear to be a step ahead in identifying a good number of unforeseen events than organizations that record more misfortunes (Weick & Sutcliffe, 2007, p. 45). This substantiates the necessity of the development of a peripheral vision by every organization.

However, Day and Schoemaker (2005, p. 136) clarify that although 97% of their study respondents mentioned of the absence of early warning systems in their organizations, it does not translate into the fact that every organization should necessarily step up its surveillance over its external world. What they see to be crucial is for every organization to ensure its capability is commensurate with its needs. This assertion is based upon their finding that whereas organizations situated in turbulent and volatile areas need a properly designed peripheral vision, those in somewhat simple and invariable environments do not have much problem. But with many uncertainties in the environment, how can every organization know exactly what the future is about?

Answering this question explains why Weick and Sutcliffe (2007, p. 45) assert that getting ready for the unforeseeable transcends merely looking forward to it. This constitutes the grounds for what they term the 'first three principles' of HROs**;** namely, *preoccupation with failure*, *reluctance to simplify* and *sensitivity to operations*. Although it sounds like a high degree of successful anticipation may be possible through the fulfillment of these principles, Weick and Sutcliffe (2007, p. 65) caution that HROs are very much aware of the insufficiencies of foreknowledge and anticipation. These give a hint that even the pursuit of these *first three principles of anticipation* may not lead to the veracity of anticipation. An explanation to this is that, at times, circumspection does not work and unforeseeable occurrences degenerate into

disaster (Weick & Sutcliffe, 2007, p. 65). According to them, in order to tackle this limitation, besides the *principles of anticipation*, HROs embark upon the *principles of containment* – encompassing devotion to establishing *resilience* and *deference to expertise*, which enable them to curb and consciously recover from difficulties. Understanding anticipation and its importance may encourage organizations to embark upon a result-oriented anticipatory management process.

3.1.2   Retrospective and anticipatory learning for successfully anticipating change

Both retrospective and anticipatory learning can help organizations anticipate change. The concept of retrospective learning in anticipating change has both proponents and opponents. Day and Schoemaker (2005, p. 136) argue that although the past is perhaps not the most credible foreteller of events ahead of us, it may contain useful blind spots in our own organizations and relevant information from outside that we must not reject, or else they obstruct our ability to identify future prospects and disasters. Similarly, it is claimed that organizations must be willing to draw lessons from their past and present or else they risk encountering challenges in making progress (Dougherty, 2002, pp. 39-40). Thus organizations must draw lessons from the past, be able to recognize what is presently working, or more notably, what is not yielding desired results (ibid, pp. 39-40).

On the contrary, Nikander and Eloranta (2001, p. 386) claim retrospective learning hinders our ability to discern unexpected changes. Hamel and Prahalad (1994, pp. 29-30) also argue that the future cannot be based upon the past because the emergence of new industrial systems will make old ones obsolete. In my view, how can we determine a better future if we ignore the lessons of our past? Knowing where we are coming from and where we are now can inform us better about what future to create.

Whereas retrospective learning is defined as keeping vigilance over past events, anticipatory learning is defined as the collection of data in connection with what will probably occur as informed by insight into the forces of change, the likelihood of future events and the concerns of different players (Wollenberg, Edmunds, & Buck, 2000a, p. 5). This study considers both retrospective and anticipatory learning as essential to successful anticipation of change.

3.1.3 Anticipatory learning tools

Many scholars such as Ashley and Morrison (1996; 1997), Fulmer (1993), and Wollenberg et al. (2000) write about a number of tools for anticipatory learning but this study limits itself to two of them found to be relevant: *scenario analysis and collaborative learning*. Scenarios will be discussed first, and collaborative learning second.

Scenarios are stories or brief summaries of what might happen (Fulmer, 1993, p. 9; Wollenberg et al., 2000b, p. 66). Scenarios can be likened to a radar in the sense that they expand the mental abilities of an executive body by engaging it in a mental tour into the future as it investigates events that are likely to occur (Harper, 2000, p. 75). In turbulent times, we think in ways that either reflect logics that have outlived their usefulness, or rely on inadequate knowledge that inhibit our ability to see new relationships (Wollenberg et al., 2000, p. 4). This necessitates the use of scenarios to assist in changing our schemata so that we are better positioned to weather uncertainties of the future and foresee the aftermath of them in both the short and long run (ibid, p. 4). Scenarios could be beneficial also in other ways.

Whereas projections give us a picture of what exactly the future holds, scenarios may not do so but they rather encourage us to think in a smart way that would supersede our customary ways of seeing things and determining what to do, so that we can discover the future. People rely on the scenario method as a means of anticipating change by adjusting their present mental frames to unstable developments. (Harper, 2000, p. 76; Wollenberg et al., 2000a, p. 2.) This means people must bear in mind that things will never remain the same, and must learn to expect and accept changing circumstances and change accordingly. Wollenberg et al. (2000a, p. 1) argue that in broad terms, scenarios can be useful in eliciting and presenting people's aspirations, intentions and understanding of change and getting people determine how to adjust to change and accomplish their vision of the future. Scenarios help to ascertain the big picture behind a weak signal and to have adequate time to strategize to exploit opportunities and anticipate crises (Ashley & Morrison, 1997, p. 49; Harper, 2000, p. 75).

Scenarios are important contributing factors to the "3 I's" of anticipatory orientation (Harper, 2000, p. 76). The first 'I' is about the necessity for an organization to launch *inquiries* into what is to be unfolded by the future in order to offer

management the opportunity to approximate the chances of the occurrence of whatever weak signals are discovered. The second 'I' relates to *insights* which could be realized from the inquiries. This suggests triangulating to see the big picture behind detected weak signals. The third 'I' stands for the *initiatives* that are embedded in the organization's plans and strategies to determine its standing (Harper, 2000, p. 76). Their purpose is to help the organization exploit emerging opportunities and to forestall possible disasters (ibid, p. 76).

Two out of the four types of scenarios created by Wollenberg et al. (2000a, p. 9), "*vision* - a vision of the desired, ideal future; and *pathway* - determination of how to get from the present to the future by comparing the present and the desired future (vision)", were deemed appropriate for this study, and were indirectly applied during the execution of my semi-structured interviews for data collection.

The essence of collaborative learning to anticipate change must not be downplayed. New paragons of learning are requiring of us a fundamental change of our understanding of education, whereby education for the advancement of people in the knowledge-seeking society demands a collective learning approach that lays emphasis on the creation of knowledge (Keating, 2005, p. 23). A study conducted by Clark et al. (1996, p. 227) shows that collaboration that produces results is that which extends the insights of the experiences, mental models, and tasks of one another through interpersonal interactions rather than sharing of individual works. In this sense, individuals learning on behalf of their organizations in external networks need the cooperation of others, or have to collaborate with others to overcome limitations associated with cognitive abilities and foresight for effective anticipatory learning to take place. These individuals can be likened to what Leonard-Barton (1995, pp. 157-158) calls *technological gatekeepers* and *boundary spanners*.

The cooperative support needed by individual learners acting as agents for their organizations is of paramount importance for effective learning to take place. This is because it is important we remember that organizations do not carry out any activity to bring about learning, but rather individual agents of organizations produce the behavior that gives rise to organizational learning (Argyris, 1993, p. 9). If an organization is self-sufficient to create today the knowledge it needs for its future survival and progress, there would be no need to collaborate with its external environment to learn to do things right. What an individual agent of an organization cannot accomplish unilaterally to bring about organizational learning, is possible through the help of other

individuals/organizations to attain what Vygotsky (1978, p. 78) calls the *zone of proximal development* (ZDP). Vygotsky (1986, p. 188) argues that the assistance a child gets to do what he cannot do alone today enables him to do it alone tomorrow. "Therefore, the only good kind of instruction is that which marches ahead of development and leads it; it must be aimed not so much at the ripe as at the ripening of functions" (ibid, p. 88). My understanding of this in relation to this study is that, if individual organization agents can seek the cooperation of their external environments today to enable them identify weak signals that help their organizations anticipate and lead change, they will be able to do so alone tomorrow. Moreover, through the help of others, an entire organization/group can realize collective efficacy or attain the *zone of collaborative development* (ZCD) (Balakrishnan & Claiborne, 2012, p. 235) necessary to tackle its future needs.

Result-oriented learning has been found to be characterized by three features of learning: active learning and construction of knowledge, cooperation and teamwork in learning, and learning via problem-solving (Alavi, 1994, p. 161). Regarding the first feature, Alavi contends that learning is premised on the notion that it is best executed by tasking individuals in the production of knowledge by attaining, creating, examining, managing, and organizing information. The second feature is based on the idea that learning is best accomplished through collaboration rather than doing so unilaterally (see e.g. Vygotsky, 1978, p. 78). The third attribute of collaborative learning is premised on the fact that organizational renewal is a function of an improvement in the organizational knowledge base (Alavi, 1994, p. 161). Learning to change this knowledge base can be quickened through problem-based learning approaches whereby cognitive modes are tested, expanded and polished up until they prove to be efficacious and dependable in tackling whatever problem that is at stake (ibid, p. 161).

Evidence of the essence of collaborative learning abounds in literature. Rationality as well as proof based on real life activities point to the fact that learning by collaboration is better than learning by competition (Jackson & Temperley, p. 46). There is a sense of future development of markets all over the world at various rates of time, and this will require that any organization ambitious to be a pacesetter must collaborate with and seek knowledge from outstanding external sources irrespective of their location (Hamel & Prahalad, 1994, p. 28). It is expected of people working in organizations that emerged after the industrial era to focus on seeking to collaborate with others so that they can learn for the purpose of meeting the demands of an

appropriate quick and unabated change (Hatch & Cunliffe, 2006, p. 94). For organizations to be more successful at achieving excellence, it is required they rely on collaborative learning to generate collective intelligence rather than just rely on the most intelligent individual (Rhea & Bettles, 2006, p. 3). The effectiveness of collaborative learning is what matters most.

3.2   Principles of anticipation

As said above (cf. p. 33), the first three principles of anticipation pursued by HROs are *preoccupation with failure, reluctance to simplify interpretations, and sensitivity to operations* (Weick & Sutcliffe, 2007, p. 45). This study argues that the observation of these principles is necessary to encourage the detection of errors and weak signals and how to deal with them. This study considers that these principles must be understood and pursued concurrently with the stages of the main anticipatory management process. Although scanning the environment for up and coming events is the first stage of the main anticipatory management process, it is important to first understand the principles of anticipation because they need to be applied during scanning, interpretation, and action/learning.

3.2.1   Preoccupation with failure

To forestall failure from befalling you rather means to go and embrace it (Weick & Sutcliffe, 2007, p. 46). To 'embrace' failure has two connotations for HROs (ibid, pp. 9, 46). First, it means being particularly conscious of small markers of failure that may constitute indications of future worse situations in the organization. Secondly, it means HROs frequently put measures in place to discourage people from committing certain errors and they relentlessly evaluate whether strategies in use have any chance of stirring up the risk of causing these errors. HROs regard every error as an indication of a problem with the system, a problem that could degenerate into ugly situations if a few individual inconsistencies coincide. For this reason, they inspire giving an account of detected errors. But how can error detection and reporting be encouraged or discouraged?

It is important to note that the early diagnosis of failures over a certain time in the past can be impeded by some characteristics of organizing. For example,

interpreting a small failure as a hint to the vigor of the system requires that members must be in the know of how important it is on a larger scale. Shared knowledge of this is not possible if members of the organization prefer to pursue their own individual selfish interests rather than that of the organization. (Weick & Sutcliffe, 2007, p. 49.) This may imply that all the members of an organization must fully identify themselves with it and be fully loyal to it in order to encourage failure detection and subsequent conveyance for solution. Weick and Sutcliffe (2007, p. 50) argue that people must not entertain the fear of being punished to motivate them to tell about incidents or they will sweep them under the carpet. There is the probability that people in a team will have the inspiration to convey errors if two factors are met: firstly, having the trust of not being turned down (team psychological safety), and secondly, having the confidence that the team has what it takes to make use of the information given to achieve beneficial outcome (team efficacy) (Edmonson, 1999, p. 356).

Research indicates that in high-learning teams, there is an open climate that encourages people to report errors whereas in low-leaning teams errors are concealed because those who commit them are punished (Edmonson, 1999, pp. 372-373). Punishing people for their errors may encourage information filtering. Filtering is the phenomenon where one juggles the data s/he has and reports only what might be appealing to the one who needs it, usually to superiors (Robbins, 2000, p. 124; Weick & Sutcliffe, 2007, p. 74). Robbins (2000, p. 124) related that the fear of reporting unpleasant news and the craving to satisfy superiors among others trigger off information filtering. Sycophancy is therefore a great threat to the health of a system.

Room created by managers for people to make inquiries and give recognition to those who convey errors gives an impetus to organization-wide culture that has regard for not hiding errors (Weick & Sutcliffe, 2007, p. 50). Westrum (1993, p. 402) argues that a culture of cognizant investigation must be injected into big organizations in order to ensure their healthiness. Not posing crucial questions and not delving into bad situations is distinctive of an organizational culture that doesn't support "requisite imagination" (ibid, p. 404). Organizations must be centers of enquiry to encourage people to detect and report errors that foreshadow future events.

Miller (1993, pp. 119-121) found that organizations at the beginning scan broadly to get to know more about their surroundings but with time as they chalk success they tend to perform a tunnel scan. Success in organizations does not only cause a shrinkage of the discernments of managers, but it also alters their attitudes, and can

even incite them to display excessive confidence in just one area of conducting business (ibid, pp. 119-121). "Success breeds confidence and fantasy. When an organization succeeds, its managers usually attribute this success to themselves, or at least to their organization, rather than to luck. The organization's members grow more confident of their own abilities, of their managers' skill, and of their organization's existing programmes and procedures. They trust the procedures to keep them appraised of developing problems, in the belief that these procedures focus on the most important events and ignore the least significant ones" (Starbuck & Milliken, 1988, pp. 329-330). Excessive celebration of success can become an evil.

3.2.2 Reluctance to simplify

The second approach to dealing with the unforeseeable is to be unwilling to allow simplifications (Weick & Sutcliffe, 2007, p. 10). On one hand, it is an undisputable fact that realizing success in any properly ordered task calls for simplification so as to concentrate on few important matters and signals, but on the other hand, it is also unarguable that too much simplification precludes us from perceiving details (Miller, 1993, p. 118; Weick & Sutcliffe, 2007, p.10). The continued existence of an organization might be jeopardized if it was excessively simple in dealing with its knotty environment (Miller, 1993, p. 118).

HROs are aware that their environment is knotty, volatile, incomprehensible, and unpredictable. Owing to this, they cherish a broad spectrum of different experiences while probing whatever idea they lay hands on in a way that harmonizes dissimilarities between ideas, simultaneously ensuring that the nuances that different people spot are not harmed. (Weick & Sutcliffe, 2007, p. 10.) They also justify this principle in question as follows: "With closer attention to context comes more differentiation of worldviews and mind-sets. And with more differentiation comes a richer and more varied set of precautions and early warning signs" (ibid, p. 53). They note that although complicating issues is an arduous task, HROs do not give up their unwillingness to simplify them (ibid, p. 53).

Drawing on the above, I conclude that, in practical terms, the application of this principle requires that we must consciously but continuously pay closer attention to context (i.e. the frontline where the actual work is done - I refer to the various interactions among the various actors of the college as well as the various interactions between the college and all its environments) for the detection of small cues about

future events. Once a cue is detected, we must desist from simplifying it as doing so poses a potential danger of blindfolding us from foreseeing the larger catastrophic events or the opportunities behind them.

3.2.3 Sensitivity to operations

Sensitivity to operations by HROs is explained as being mindful of the forefront where the actual work is executed to enable the detection and an expeditious action on the actual chaotic situations prevailing in the majority of systems (Weick & Sutcliffe, 2007, pp. 12, 59). The forefront in terms of schools could embrace all interactions among the various actors within the school, and all interactions between the various actors of the school and their external environments (such as internships for students and teachers, students' and teachers' exchange programmes, and attendance at conferences, seminars, network meetings, and so on and so forth). Thus the forefront could be any activities or relationships that create interactions among the actors of the school, or between actors of the school and their external environments.

For any system to work properly, people need not cover up abnormalities because of fear otherwise the system will be out of gear (Edmonson, 1999, pp. 372-373; Weick & Sutcliffe, 2007, pp. 12, 59). HROs are aware that it is impossible to have a broad knowledge of operations if the signs of those operations are not reported (Weick & Sutcliffe, 2007, pp. 12-13, 59). Relating sensitivity to operations to schools may imply the reality all players of the school encounter in the discharge of their responsibilities other than what is officially required of them. Sensitivity to the abnormalities in schools should function at the individual, group and organizational levels. All the stakeholders of the college must be motivated to be conscious of these realities and report them.

3.3 Main anticipatory management process

This process consists of external networks as means for external environmental scanning for data, organizational interpretation of gathered data, managing resistances and anxieties for successful learning, and action on interpretation of data, i.e. learning. These four stages must be embarked upon alongside the observation of the principles of

anticipation and containment in order to achieve successful management process of anticipatory networked learning.

3.3.1 External networks as means for external environmental scanning for data

Scanning the external environment is done to gather relevant data for interpretation and organizational learning to take place. Organizations may rely on formal information gathering systems, or leaders could detect emerging issues in the external environment through their personal ties (Daft & Weick, 1984, p. 286). This study relies on both personal and professional external network contacts of organizational members as means of scanning the external environment for data collection. Mohrman et al. (2003, p. 307) define external networks as connections between an organization to establishments in the organization's environment.

In the main anticipatory management process, the first thing to do is to detect up and coming events well ahead of their arrival, which gives the chance to prepare in many ways to foil their escalation when they finally arrive (Ashley & Morrison, 1997, p. 48). It is important to mention here that the task of leading the organizational learning process (see Daft & Weick, 1984, p. 286) should not be the preserve for leaders but be seen as the responsibility at the individual, group, and organizational levels. Schein (1993, p. 85) expresses the concern that because we see our leaders as only those in-charge of affairs, we are reluctant to detach ourselves from our cultural norms that make us expect our leaders to provide the answers we need for whatever challenges we face. Weick and Sutcliffe (2007, p. 74) maintain that employees deep down the organizational hierarchy are those at the front line where the real work is done, and therefore, they are most likely the first to detect an early warning signal but may ignore it if they don't notice its significance. Collinson and Cook (2007, p. 33) note that inquiry can be the principal interest at any of the stages of learning - the individual level, the group level, and the organizational level. They argue that personal inquiry in schools is required in order for organizational learning to occur, but is not sufficient; hence difficult tasks and organizational learning dictate the reliance on collective inquiry (ibid, p. 95).

This study defines environmental scanning as a means through which an organization is widely-awake to developments in its outside world to get an insight into the kind of future it desires to have (see Pashiardis, 1996, pp. 6-7). Both passive and active scanning is needed. Whereas passive scanning entails waiting to get external

signals, active scanning involves curiously asking the right question and seeking for the right answer from outside (Day & Schoemaker, 2006, pp. 50-51). While there is the likelihood that unexpected and unfamiliar emerging issues may be elusive through passive scanning, they are all likely to be captured through active scanning (ibid, pp. 50-51). External environmental scanning is a necessity that must be fulfilled by any organization that wishes to continuously achieve excellent performance. This is supported by Fullan's (1999, pp. 44-45) argument that competence in being in touch with the external world cannot be incidental on two grounds: there is excessive loss in a volatile environment, and continuing and uninterrupted ties are required as a means to access the in-depth, unexpressed knowledge resident in the minds of others. He asserts the second objective explains why networks and partnerships function as means of reaching and changing the unexpressed knowledge of others into available forms. Scanning must be followed by monitoring and surveillance on the detected weak signals (Ashley & Morrison, 1997, p. 48).

The importance of relying on external networks to scan the external environment is evidenced in many ways. Mohrman et al. (2003, pp. 307-315) argue that internal social networks are necessary platforms for generating knowledge but their schemata is not sufficient; hence connecting with bodies outside the organization with different ideas and cognitive maps can broaden the knowledge and the already existing approaches to meaning construction towards the creation of new competences. Fullan (1999, pp. 43-44) asserts that ingenuity within any organization is inadequate while the environment is reeling; hence being customarily near to the environment is an absolutely necessary requirement to be abreast with the field. The continuous existence of an organization and its ability to flourish in times to come require that it is adept at skills of importing ingenuity concerning what is going on in the outside world to buttress what needs to be done internally (Ashley & Morrsion, 1996). If environmental scanning is properly carried out, it keeps the leaders of an organization informed of important events in the environment which help them to steer the affairs of the organization better. To avoid a narrow focus into environmental scanning, perceiving weak signals from the environment must be regarded as an integral part of the organizational culture and an attitude of organizational members. (Pashiardis, 1996, pp. 6-7.)

Organizations that scan broadly have an unquenchable desire to pursue the latest innovations and, are therefore, always engaged in networks that make it possible to

avoid any new technological advancement from eluding them (Fullan, 1999, p. 44). Pashiardis (1996, pp. 6-7) maintains it is important that scanning covers a broader range of issues than traditional information gathering in the sense that remarkable influences on an educational organization may arise from places and events of which we have no foreknowledge. Since there is the probability that important weak signals may spring up from places not predicted at any given moment, it is important that organizations also search their larger environments for social, technological, economic, environmental, and political events (Ashley & Morrison, 1997, p. 48). This means that an organization must be in a position to detect emerging issues way beyond its principal area of attention since the negligence of this has led to some companies being eluded by opportunities while making opportunities available for others. However, an overly extensive scanning can also lead to organizations being inundated with valueless signals. (Day & Schoemaker, 2006, pp. 19-29.) The right scope to cover in the search for weak signals should be a reflection of framing the appropriate questions to expose the deficiencies in an organization's current knowledge structure and then determining where the attention should be focused to get the needed answers (ibid, p. 28).

Unfortunately, according to Fullan (1999, pp. 44-45), the majority of schools have not cultivated the quest of external antennae as their customary practice. This is supported by Holmes, MacElwee, and Thomas (1995, p. 28), who found it not amazing that all the schools they sampled for their study did not practice formal environmental search. Rather than scan for information from credible sources such as scientific journals, these schools rely heavily on newspapers and non-scientific journals that do not properly address emerging issues. Subsequently, decisions made by these schools are half-baked or perhaps reflect analytical information imported into their schools. Another consequence of schools not customarily seeking external links is Fullan's (1999, p. 43) finding that the functional knowledge base that organizational members should have and modernize and polish unceasingly, suffers from underdevelopment in educational reform. Certain obstacles may prevent schools from seeking external ingenuity. According to Fullan (1999, p. 43), "a combination of norms and structures of privatism, rigid hierarchical structures, and in recent times, relentless attacks from the outside have kept most schools withdrawn from their environments". Underlying assumptions of the organization have to be questioned from time to time so that they don't resist new ideas that are inconsistent with them (Ashley & Morrison, 1997, p. 49).

Leonard-Barton (1995, pp.155-160) spotted six shared actions managers of highly performing organizations used in nurturing genuine capacity to absorb information. Firstly, they *create porous boundaries*; secondly, they *scan broadly*; thirdly, they *provide for continuous interaction*; fourthly, they *nurture technological gatekeepers*, fifthly, they *nurture boundary spanners*; and sixthly, these companies have no room for the 'not-invented-here' syndrome (NIH).

3.3.2 Organizational interpretation of information and action

Weak signals and/or errors detected have to be interpreted for subsequent action. Prior to action, anxieties and resistances associated with change must be addressed. Organizational learning in this study is synonymous with action on what is learnt from the interpretation of detected weak signals/errors.

Accurate sensemaking and interpretation of the data gathered

Data gathered from environmental scanning has to be reported for sensemaking and interpretation. Levitt and March (1988, pp. 326-328) argue that people must share the inferences of what they experience with those who did not experience them so that whatever they have learnt becomes embedded in the organizational memory for accessibility and use even long after they are gone or else there is the probability that the lessons of history will disappear as people leave the organization. Sensemaking and interpretation of the data obtained must be done again at the organizational level. Organizational interpretation is defined as "the process of translating events and developing shared understanding and conceptual schemes among members of upper management" (Daft & Weick, 1984, p. 286). It is important to note that an organization can be said to have done interpretation only when a new idea is registered into the collective mental frame of the organization (ibid, p. 286).

This meaning construction as the second stage of the organizational learning process is viewed as a crucial thing that sets apart human establishments from non-human systems (Daft & Weick, pp. 285-286). Ashley and Morrison (1997, p. 49) call this stage *preparing issue briefs*, which entails dissection of weak signals that you have gathered from the external environment and pointing out which of them could impact your organization. Interpreting external data appears to be a daunting task.

Daft and Weick (1984, pp. 285-286) claim there is insufficient insight into the meaning making activity and the arrangements of organizational features that may facilitate putting the puzzle-like pieces together. But the combination of the puzzle-like pieces is of grave concern (Day & Schoemaker, 2006, p. 75). The complexities associated with making sense of external information might explain why Ashley and Morrison (1997, p. 50) maintain that the steering body of the anticipatory management process must have an in-depth knowledge of the organization and be receptive to external forces which exert an impact on the organization. I see accurate interpretation of identified weak signals to be a critical stage in the anticipatory management process in that wrong interpretation may lead to wrong actions which in turn may result in disastrous consequences. Bolman and Deal (2003, p. 6) confirm this as they claim that not only do imperfect ideas lead us into disaster but they also mask their shortcomings.

Whereas interpretation is about how people deal with the existence of things they have come to see, sensemaking helps us to understand what prompted the existence of the things we see (Weick, 1995, p. 30). If we make sense of past events, then sensemaking of detected errors is to unravel what has to be corrected towards building a better future. Retrospective sensemaking rests on the notion that reality is established when people can realize what their deeds are after they have executed them (Weick, 1995, pp. 24-28). However, the disadvantage of retrospective sensemaking is that it comes with equivocality rather than uncertainty (ibid, p. 28). Not only should organizations make efforts to reduce equivocality in sensemaking but also ambiguity towards ensuring accuracy as much as possible.

Ambiguity stands for more than one interpretation as well as an absence of clarity (Weick, 1995, p. 95). "Ambiguity understood as confusion created by multiple meanings calls for social construction and invention, and ambiguity understood as ignorance created by insufficient information calls for more careful scanning and discovery" (ibid, p. 95). These may explain the essence of collective interpretation (see Dixon, 1999, p. 104) which must be supported by disconfirmation or confirmation of data through triangulation of data (see Schein, 1996, p. 29, Schein, 1993, p. 88; Day & Schoemaker, 2006, pp. 78-94).

Collective interpretation can increase the probability of accurate interpretation. Dixon (1999, p. 104) maintains that the rationale behind collective interpretation is to scale down the occurrence of equivocality. Although collective interpretation may not lead to an optimum solution, it provides a better grasp of the characteristics of the task if

organizational members completely devote themselves to it (ibid, p. 104). Hasty and ill-informed interpretation may produce non-optimal answers and must be discouraged. In the wake of a high degree of unpredictability and where the means to act on new signals of change are constrained, the ideal approach is to remain vigilant and allow some time to elapse. This offers the opportunity to uncover the big picture behind the detected signal in order to determine the optimal response to it. (Day & Shoemarker, 2006, p. 133.) How accurately an organization interprets given data may also be a function of different organizational orientations to interpretation.

Organizational interpretation differences

There are *two main organizational differences in relation to interpretation* (Daft & Weick, 1984, p. 287). The first one is the conviction by the executive body that its outside world is analyzable, and the second one is about the degree to which an organization gets involved with its environment to gain insight into it. The four organizational interpretation nodes are: *discovering mode, enacting mode* (Daft & Weick, 1984, pp. 288-289), and the *conditioned viewing* and *undirected viewing* (Aguilar, 1967) in Daft and Weick (1984, pp. 288-289). Whereas the *discovering mode* describes an active organization that critically examines the environment to find solutions to problems although it does not fine-tune the solutions it gets, the *enacting mode* describes an active organization that presumes its outside world to be unanalyzable and, therefore, creates its own environment based upon the outcome of trying new things to see what will work (Daft & Weick, 1984, p. 288-290). The *enacting mode* is consistent with Brown and Eisenhardt's (1988, p. 5) description of organizations that lead change. I deduce the *discovering mode* is associated with organizations that anticipate change, while the *enacting mode* is tied to organizations that lead change.

While internally focused organizations that rely on pre-existing schemata and are labelled *conditioned viewing, undirected viewing* is used to refer to organizations that presume their environment not to be examinable. They are receptive to a wide range of clues about the environment coming from a bunch of sources (Daft & Weick, 1984, p. 289). C*onditioned viewing* organizations may be designated as operational rather than vigilant (see Day & Schoemaker, 2008, p. 46). It could be concluded that

these organizations suffer strategic misfit and cannot solve unprecedented problems. Thus such organizations are rule followers rather than rule makers (see Hamel & Prahalad, 1999, p. 33).

The second key thing that distinguishes one interpretation system from the other is the scope of their active search of their environment (Daft & Weick, 1984, p. 288). While some organizations commit resources to actively scan their environments, others take whatever information the environment offers them and only react when disaster befalls them (ibid, p. 288). Whereas proactively scanning the environment can lead to anticipating and leading change, passive scanning can only lead to adaptive learning to enable organizations react to crises that strike them.

Triangulating to increase accurate sensemaking and interpretation

There are further issues affecting sensemaking and interpretation: Treating collective interpretation as the preserve of upper management as claimed by Daft & Weick (1984, p. 285) is necessary but not sufficient. Could interpretation done by a relatively few people at the echelons of an organization be collective enough to be trusted and valued? Why not allow collective interpretation reflect the views of as many other organizational members as possible who have the necessary expertise, or even include the inputs of experts outside the organization? These questions justify why Day and Schoemaker (2006, pp. 78-79) write about the significance of triangulation to capture multiple views on interpreting information in order to arrive at an in-depth and elaborate interpretation for it to be valued. They substantiate this by arguing that although all the 'blind men' of the proverbial tale have their individual biases, their collective views helped to arrive at a more precise look of the elephant (ibid, p. 80). Triangulating weak signals this same way is of special significance in case the pieces of the puzzle are indistinct or completely lost, which can permit organizations to see the big picture behind them (ibid, p. 80).

Collinson and Cook (2007, p. 36) remind us that sensemaking is affected by the convictions people have, their education, their experience, and previous knowledge. The meaning construction process of data may be affected by factors such as the kind of the answer looked for, the features of the environment, the prior experience of the inquirer, and the approach employed to obtain it (Daft & Weick, 1984, p. 284). Day and

Schoemaker (2006, p. 86) mention our personal and organizational cognitive frames as well as our personal biases, and our organizational biases such as groupthink as other factors that influence our interpretation of weak signals. Whenever new findings appear to offset our entrenched beliefs or lack something important we expected, we tend to manipulate the facts to be consistent with our prior leanings (ibid, p. 87). Besides individual prejudices, they contend that each member of an organization is liable to the negative impact of groupthink - a term used by Janis (1971, pp. 185-186) to explain "… the mode of thinking that persons engage in when *concurrence-seeking* becomes so dominant in cohesive in-group that it tends to override realistic appraisal of alternative courses of action".

Measures they recommend to tackle these aforementioned biases and unseen areas of importance include looking for new data to either confirm or disconfirm reality, enacting manifold propositions, inciting productive conflict, reaching into intelligence restricted to certain areas, and using conversation to understand the big picture. Additionally, overcoming these biases and to increase the validity of the interpretation requires paying attention to the credibility of the source of information to be able to differentiate between true and false signals (Day & Schoemaker, 2006, p p. 90-94.)

In conclusion, unilateral or organizational interpretation of evidence without detachment from biases, prior mental frames, and not exhaustively seeking the necessary information to either support or disconfirm the evidence may lead to myopic and flawed interpretation.

3.3.3   Managing anxieties and resistances for successful organizational learning

Prior to implementing the interpretation of data, anxieties and resistances associated with change must be managed. Schein (1993, pp. 86-88) claims learning is not a unitary concept but that which embraces three types of learning associated with anxieties. The three types of learning are knowledge acquisition and insight, habit and skill learning, and emotional conditioning and learned anxiety. According to him, there are two types of anxieties, which must be overcome in order for learning to occur.

The first anxiety, *Anxiety 1*, refers to one's feeling in connection with lacking the capability or the willingness to accept new change because it is perceived to be an onerous task (Schein, 1993, p. 86). Bolman and Deal (2003, p. 373) argue that feeling anxious and incapable in connection with a new change may compel people to either obstruct or sabotage the change with the hope to revert to their comfort zones. To dodge

Anxiety 1 means that one would dispute the problem or the reality, or make it appear simple even if it is complex by making twists and turns of it, or cast it unto another person, or not learning at all (Schein, 1993, p. 86). Some provisions to encourage the detection of errors and weak signals and reporting them are necessary to help avoid dodging Anxiety 1, otherwise the detection and reporting of errors and weak signals may be impossible, which means the organization cannot anticipate its future.

Schein (1993, p. 86) argues that learning is more than merely obtaining data and knowledge, but must take into account two important facts. Firstly, to learn a new thing requires the detection of a problem and that the learner gains adequate motivation to prevail over Anxiety 1. Secondly, insight is not a guarantee that the learner will expectedly exhibit the appropriate behaviour or skill to tackle the problem, hence a change in behaviour that translates into witnessing new developments help us justify the effectiveness of what we are learning cognitively. Anxiety 1 is also associated with habit and skill learning, which is the learning that involves the use of carrot instead of stick to stimulate people to gradually prevail over the feeling of incompetence associated with new change at the onset, and to achieve what is expected of them, and to be immediately recognized for acceptable behaviour (Schein, 1993, pp. 86-87).

Anxiety 1 is also tied to the third type of learning, *emotional conditioning*, which is credited to Pavlov (Schein, 1993, p. 87). The important point about this type of learning is that our collective cultural presuppositions mostly reflect our past mistakes rather than our past successes, and therefore it is extremely burdensome to learn new things. People's unwillingness to exit their comfort zones is expressed by three most common resistances: not to give ears to the information of change in the first place, to refute the necessity of the information about change; and to justify that leaders lack comprehension of their situation. It is crucial to put in place a new anxiety, *Anxiety* 2 to topple *Anxiety* 1 to pave way for learning something new. (Schein, 1993, p. 87-88.)

The second anxiety, *Anxiety 2*, refers to the fear, shame, or guilt tied to not accepting new change. This comes about following one's realisation that not halting a particular behaviour will result in disaster. (Schein, 1993, p. 88.) In other words, this means that the absence of a high 'felt-need' for any particular change will cast doubts on it (Burnes, 2004, pp. 983-984). 'Felt-need' refers to one's inner awareness of the indispensability of a particular change (ibid, p. 984). In order for an organization to witness the necessary change, it must primarily be subjected to destabilization (Schein, 1993, p. 88). Schein (1996, p. 28; & 1993, pp. 88-89) proposes three processes that

must be carried out concurrently to destabilize an organization: disconfirmation, survival anxiety, and creating psychological safety.

Destabilizing the organization begins with *disconfirmation*, which involves the mobilization of data to sufficiently justify to both employees and managers to believe that their present approaches to things are not any more productive in order for change to occur (Schein, 1993, p. 88, & 1996, p. 29). The disconfirmation has to invoke "survival anxiety"**,** or the feeling that maintaining the status quo will not permit us to address our needs or fail to realize our aims and standards of excellence ("survival guilt") (Schein, 1996, p. 29). To feel survival anxiety or guilt requires that we agree on the disconfirmation information being sound and pertinent. However, *learning anxiety* can discourage us from having a feel of survival anxiety. Learning anxiety refers to the feeling that if we agree to get involved in a learning or change process, if we understand that something is not good or flawed, we may be stripped of our usefulness, our self-respect and maybe even our individuality. According to Schein, overcoming this learning anxiety is critical to realizing change, which requires enacting for the learner what is called *psychological safety*. (ibid., pp. 29-30.)

Schein (1993, p. 89) maintains that the realization of change requires people have the sense of adequate psychological safety – thus, the need to see ahead of them how they can cope, a way forward that will not be disastrous. In connection with this, Ashley and Morrison (1997, p. 50) share that the benefit of gaining insight into an organization's external world that is derivable from anticipatory activities will be an elusion if it does not sink into the mind of those involved. Schein (1996, p. 30) notes that "the key to effective change management, then, becomes the ability to balance the amount of threat produced by disconfirming data with enough psychological safety to allow the change target to accept the information, feel the survival anxiety, and become motivated to change". However, the creation of psychological safety might not be applicable to all situations, especially, where the change process is loaded with conflicts and resistances that are difficult to manage, and at the same time the need for change is urgent and inevitable.

Bolman and Deal (2003, p. 378) assert that division and conflicts are inherent elements of change but effective change calls for the capability to define issues, forge coalitions, and set up platforms where conflicts can be made constructive. White (2003, p. 13) argues about the identification and use of the early adopters to get change initiatives accomplished rather than to do so with the laggards. Oliver, Marwell,

Teixeira (1985, p. 522) agree that customarily, realising collective action demands reliance on a "critical mass" that sees things different from the others. Since change implementation is a collective activity, but which could be challenging, it is necessary to identify and start with the early adopters or the critical mass that can influence the rest to see the change through. Kotter (2007, pp. 96-99) observed that many change initiatives do not achieve their set objectives but he repeatedly unveiled that the successful ones are characterized by eight stages: establishing a sense of urgency, forming a powerful guiding coalition, creating a vision, communicating the vision, empowering others to act on the vision, planning for and creating short-term wins, consolidating the improvements and producing still more change, institutionalizing new approaches.

3.3.4   Action on the interpretation of data, i.e. organizational learning

I established in the previous section the various approaches of realising successful change. This sets the stage for taking action on the needed change, which is the last stage of the main anticipatory management process. According to Daft and Weick (1984, p. 286), once meaning of the data gathered has been constructed, it is followed by the third stage of the entire organizational learning process – learning; which is the stage of acting upon what has been learnt from the data interpretation. In their view the outcome of implemented change can be evaluated and the evaluative information may give new shared understanding for coalition members. What they mean is that a new round of data can be teased out from the evaluative information that must be interpreted for a new round of action. Thus they observed that the three stages of the organizational learning process – scanning, interpretation and learning are linked through feedback loops. The implication is that these three concepts of organizational learning constitute an endless iterative process for any organization that wishes to be vigilant and continuously learn new things in order to continue to exist and grow.

But we cannot rule out the fact that organizational learning could either be effective or ineffective. Argyris and Schön (1996, p. 3) state that all organizations acquire knowledge via various approaches and, what they learn could either be beneficial or counterproductive, Appelbaum and Gallagher (2000, p. 46) argue that organizational learning transcends just getting employees back to a business school, to include marshalling and employing what they learn for a competitive advantage. Caution must therefore be taken so that organizational learning results in the

improvement rather than deterioration in the performance of an organization. If organizational learning is counterproductive, it may signal the insufficiency of single-loop learning, which may necessitate advancing to the next higher level of learning, double-loop learning.

Argyris (1993, p. 9) brings to our notice two conditions under which learning takes place to explain single-loop learning: realization of congruence between an organization's design for action and the result, and fixing mismatches by resorting to new approaches. Where an organization's intentions are not realized, where new efforts to meet them fail, then reliance on double-loop learning is inevitably warranted if only the organization desires to break the status quo and progress. Argyris (1993, p. 9) defines double-loop learning as the learning that takes place when mismatches can be fixed by scrutinizing and changing an organization's governing variables, and then the interventions. If anticipated change does not yield the expected results, and if new efforts cannot fix the mismatch, then it calls for double-loop learning to change the governing variables or underlying assumptions so that the unexpected event can be contained to prevent the derailment of the organization. Not achieving organizational intentions could be as a result of organizational biases and lack of triangulation which might have hindered accurate interpretation of a detected weak signal.

Both single- and double-loop learning should be done in such a way that they lead to organizational improvement. In essence, Haho (2004, p. 240) is of the view that organizations need to learn how to practice single- and double-loop learning in order for them to capitalize on new strategies, technologies, and processes created by new study and advancement. According to him, this kind of learning is labelled by Bateson (1972) as 'deutero-learning', i.e. 'second order learning'. Cited in Haho (2004, p. 240), Argyris and Schön (1978, p. 27) point out that deutero-learning involves members of an organization to learn about the context that prompted learning. This tasks them to ponder and probe into prior incidents of organizational learning, or the disregard to learn. This learning enables them to find out what actions they took that fostered or impeded learning, which paves way for engineering new methods for learning, and for them to produce these methods and appraise them.

4 RESEARCH METHODOLOGY

This chapter presents the background of the empirical unit as well as the context of the study, the aim of the research, the rationale for the qualitative single case study, the selection of the case study and informants, the data collection, and the qualitative data analysis.

4.1 Background of empirical unit and context of study

In Finland, education is regarded as one of the fundamental rights of all citizens. Finnish legislation provides everyone living in Finland (i.e. both Finnish citizens and foreigners) with the right for free access to basic education. The Finnish educational system consists of pre-primary education, basic education, general and vocational secondary education and training, as well as tertiary education at polytechnics and universities.

The data for this study came from a Finnish vocational educational organization. The background information of this organization mentioned in this text is retrieved from the organization's marketing information. This organization is a multicultural, boundary-breaking educational institution, which establishes learning communities through forging partnerships. High quality students from basic education (comprehensive schools) designed for 7-16-year-olds, 'career start' programmes, and general upper secondary schools can proceed to the vocational college to study for a vocational qualification within a time span of 1-3 years (120 credits). This organization offers general education and training, and vocational education to meet the needs of trade, industry, and the public sector. One of the focus areas of this organization is entrepreneurship, which takes one quarter of the entire studies of students. The

entrepreneurial studies offer students the opportunity to incorporate real business practices into their studies. As part of their overall studies, students spend at least six months (20 credits) on-the-job learning at workplaces. Upon completion, 60% of the college graduates directly go into the job market while 20% either enter the polytechnic for a polytechnic Bachelor's degree, and after gaining work experience continue to a Master's degree, or go for a Bachelor's and Master's degree at the university and can continue to the doctorate level.

The goal of this organization is to inculcate into its graduates the skills and competences required to fare well in the ever increasing competitive global job market. This organization focuses on enhancing provincial and regional development, developing business, industry and the public sector, and providing individual learning paths for the young. To my understanding, focusing on these objectives implies that the college is taking upon itself the responsibility of providing intellectual leadership in these areas. This intellectual leadership would not be possible in the absence of anticipatory orientation to change.

According to this organization's marketing information, factors that generally account for the success of this organization include cooperation with the world of work and standard on-the-job learning procedures, extensive choice of studies, good facilities and skilled personnel, a strong role in regional development, effectiveness of the development activities, dual degrees in cooperation with the local upper secondary schools, investment in entrepreneurship, cooperation networks (i.e. future knowledge creation centers), development of the professional competences of the personnel, effective guidance and welfare services.

As already mentioned in the introductory chapter, necessitated this study was the need to understand how this educational vocational organization relies on its external networks to anticipate change.

4.2 Aim of study and research questions

The aim of this study is to uncover the nature of the Finnish vocational organization's anticipatory management behaviours as informed by what its members learn from its external networks. Achieving this aim warranted the research problem statement and questions stated below.

This study does not view the open systems theory (e.g. Katz & Kahn, 1966, p. 481; Shafritz et al., 2005, p. 476; Scott, 1987, p. 23), and the systems thinking theory (e.g. Gharajedaghi, 2007, p. 476; Senge, 1990, p. 451; WHO, 2009, p. 33) in the sense of organizations interacting with their environments in order to learn to adapt to changes (e.g. Senge, 1988, p. 413), but instead to learn *to anticipate changes* (e.g, Ashley & Morrison, 1997, p. 50; Brown & Eisenhardt, 1988, p. 4; Harper, 2000, p. 75). It is evident from the literature review that anticipating change could sometimes mean leading change and vice versa. For this reason, in this study, anticipating change could as well mean leading change and vice versa. Thus future-mindedness describes both anticipating and leading change.

The main research problem is to find out how this vocational college uses its external networks to anticipate and lead change. To retrieve the answers to this problem, the following specific research questions were used:

1. Why is the vocational college involved in external networked-learning?

2. How is the vocational college involved in external networked learning?

3. What intelligence has the college gathered from its external networks and how has it been using it to anticipate its future?

4. What are the new emerging issues the college should consider to anticipate its future?

4.3   Qualitative research approach and rationale behind it

 Denzin and Lincoln (2000, pp. 3-4) note that "qualitative research involves the studied use and collection of a variety of empirical materials – case study; personal experience; introspection, life story; interview; artifacts; cultural texts and productions; observational, historical, interactional and visual texts – that describe routine and problematic moments and meanings in individuals' lives". Whereas quantitative research is concerned with the collection of facts of human behaviour in order to provide validation and elaboration on a theory for the purposes of stating causes and predicting human behaviour, qualitative research is to better fathom human behaviour and experiences (Bogdan & Biklen, 2007, p. 42). Many researchers (e.g. Bogdan &

Biklen, 2007, pp. 4-8; Creswell, 2007, p. 20, Morrow, 2007, p. 216) mention human subjectivity in the process of doing qualitative research because true objectivity is unachievable.

Choosing the qualitative research approach to study this phenomenon in the case college is appropriate because, as e. g. Bogdan and Biklen (2007, p. 43) assert, it is suitable to use the qualitative research method if a researcher seeks to acquire knowledge about how the process of change in a school is conducted and how the various members of a school go through change. The existence of the variations and multiple forms of the subjective meanings people draw from their experiences in relation to any given phenomenon dictates that the researcher relies on the social constructivism dimension of qualitative research to enable him/her to elicit their complex views and refrain from putting the meanings people have constructed into a few types or ideas (Bogdan & Biklen, 2007, pp. 4-8; Creswell, 2007, p. 20). This requires a qualitative researcher to marshal a broad spectrum of interlinked interpretive practices that provide a possibility of gaining a better grasp of the phenomenon being studied (Denzin & Lincoln, 2000, p. 4)

The conflicting views about case study make it difficult to agree on a single definition. Yin (2009, p. 13) writes about two key elements that constitute a technical definition of case study research. The first element that relates to the scope of the study looks at a case study as an empirical inquiry that examines an existing subject matter in its natural context, particularly when the limits between the subject matter and context are indistinct. Secondly, Yin argues that because the subject matter and context are not always differentiable in natural conditions, a collection of other technical characteristics that includes data collection and ways of data analysis form the second part of their technical definition. Another definition is the view of case study as a research that is concerned with comprehending the dynamics inherent in a single setting (Eisenhardt 1989, p. 534). It is because I wanted to understand the dynamics of anticipatory management in the context of the case college that I chose case study research.

It is necessary to arrive at a decision before data collection as to whether answering the research questions is a matter of relying on a single case study or multiple cases (Yin, 2009, p. 39). He views two-case case study as providing better opportunities of realizing a high quality case design with the likelihood of having more applications of the findings to other contexts than doing a single case (Yin, 2009, p. 53). Despite this fact, my choice of a single-case study is also justified on the basis of the assertion

by Dyer and Wilkins (1991, pp. 614-616) that getting deep contextual insights to present a good story of the phenomenon studied is best achieved by a single case study rather than by multiple cases.

The use of 'how' and 'why' questions for my semi-structured interview questions further substantiate that case study is the most suitable for my subject matter. This corresponds to the assertion by Yin (2009, p. 1) that broadly speaking case studies are appropriate when one is looking at the 'how' or 'why' questions in the situation where the inquirer does not have much control over occurrences, and when attention is centered on an existing subject matter within some natural setting. Since there are different ways to anticipate the future, a single case study to investigate this phenomenon is appropriate in order to see what findings might be peculiar to this case college.

Another rationale is to use a single case to examine the validity of what a theory has proposed or to unravel if it might be possible to explain it in another way (Yin, 2009, p. 4). My interest in a single case was to establish whether the findings from my study support or extend existing theories, or if they are idiosyncratic.

4.4   Selection of case organization

Cases cannot be stated in advance, and therefore, they must be found, and finding cases rather than framing them beforehand may permit us to finetune or rebut the theory upon which we relied for the guidance at the onset (Ragin, 1992, p. 220). Case study research is neither a sampling research nor is it done with the prime aim to get to understand other cases (Stake, 1995, p. 4). According to Stake, the first thing we seek to accomplish in a case study is to understand that one case. He argues further that the case selection should first be based on our quest to increase what we learn. I expected that, by the time I would have finished looking into this case, I would have gained an in-depth contextualized insight into anticipating and leading change in this organization.

The choice of my case was also informed by a purposeful, criterion and theoretical sampling. Purposeful sampling is concerned with choosing information-rich cases to arrive at an in-depth understanding of what is studied (Patton, 2002, p. 46). It enables the researcher to sufficiently learn about the issues of primary importance to the purpose of the study (ibid, p. 46). Patton asserts that the criterion sampling is about

selecting cases that satisfy some criterion (ibid, p. 243). Choosing my case was based on a disclosure by one of the leaders of the college in response to my question that one most important way they anticipate their future is through learning from their external networks. This disclosure happened during a lecture given to my class when we visited the college in April 2009 as part of our practicum training. The motivation for this case study was to find out how the college manages anticipation of change.

Moreover, I was convinced to take the college as a case because it is in Finland and the fact that I was assured by a leader of the college of prospective informants who would also be willing to read through some segments of my work for their constructive feedback (see Stake, 1995, p. 4). According to Stake (1995, p. 4), the purposes we have for our study should inform the selection of cases that have the potential to bring about understandings, affirmations, or probably making changes to generalizations. Another purpose of delving into this case was in line with theoretical sampling which is done to confirm a theory of interest to us that could allow us to explain or scrutinize it, and to modify it (see Patton, 2002, p. 243).

After I found my case, I had to rely on some of my lecturers at the Institute of Educational Leadership of the University of Jyvaskyla to introduce me and my proposed thesis topic to the leader of the case organization. This was followed by a cover letter issued by the Institute of Educational Leadership to officially seek permission for my study. I made follow ups to remind the leader about my study and to discuss relevant possible informants and interview schedules.

4.5   Data collection

The data necessary to respond to the research problem and the research questions was collected by semi-structured interviews. I relied on the semi-structured interview because I found it more appropriate in the sense that it was interactive and gave me a high degree of flexibility to pose follow up questions.

4.5.1   Semi-structured interview as data collection method

There are four fundamental dimensions of qualitative data: interviews, observation, documents, and audiovisual materials (Creswell, 2007, pp. 129-130; Patton, 2002, p. 4). Because of limited time, and the fact that I wanted an interactive way to collect my data,

I found semi-structured interviews appropriate. A semi-structured interview is the type of interview which involves an interviewer posing series of pre-constructed questions to an interviewee alongside asking open-ended questions more closely to ply more useful information (Gall, Gall, & Borg, 2007, p. 636). The interview methodology is based on the notion that we are able to delve into a given subject matter by engaging people in conversation for the purpose of creating knowledge through listening to the information they pass to us, giving meaning to the information, and how the information is passed to us (Mason, 2002, p. 225).

What the research interview does is to provide an opportunity where the researcher and the informant are able to interact with each other for a co-construction of knowledge (Kvale, 2007, p. 2). To be able to co-create knowledge, we need to draw lessons from people's lives, lessons from what they have experienced, lessons from feelings they have or have had, and lessons from the hopes they have or have had from the world in which they reside (ibid, p. 2). I chose interviews to have the possibility to pose follow-up questions or frame new questions in the event that responses by an interviewee to a previous question were not satisfactory. Because change in any organization is a process and the fact that different organizations may have different experiences of change, I wanted to understand why the college initiates a particular change, what goes into that change, and how the change is conducted? My interviews were audio-recorded alongside taking some important notes. I later transcribed all my interviews and organised the notes into a piece that harmonized with and complemented the transcribed data.

4.5.2   Conducting the interviews

The nature of the topic dictated that only those in leadership positions and those serving in other critical positions of the college, mostly involved in initiating and implementing change were selected as interviewees. This was because I considered these interviewees to be better informed about my topic and saw them to be more probable to offer me the requisite information for a better grasp of my topic (see Marshall, 1996, p. 523). The leader of the college assisted me with the selection of valuable informants for the study (Bogdan & Biklen, 2007, p. 275). Based upon their understanding of the kind of data I needed and how many informants would suffice, my first informants referred me to the other informants (see Cresswell, 2007, p. 125). My first interview with the leader of my case college was the longest, lasting 90 minutes. This leader and I both agreed

beforehand that I could interview her for at most 90 minutes as an opportunity to more or less do a second pilot testing of my research and interview questions before proceeding with the rest of my interviews. The rest of my interviews including the focus group lasted between 45 minutes and one hour. I ended up doing seven individual interviews involving leaders and a focus group of five teachers of the college.

The focus group became necessary in order to capture the teachers' perspective on my subject matter and to make up for what was not said during the one-on-one interviews. Bogdan and Biklen (2007, p. 109) argue that "focus groups are particularly useful when the topic to explore is general, and purpose is either to stimulate talk from multiple perspectives from the group participants so that the researcher can learn what the range of views are, or to promote talk on the topic that informants might not be able to talk so thoughtfully about in individual interviews".

The importance of rapport is expressed when Bogdan and Biklen (2007, p. 94) noted that the researcher's relationship with prospective informants and their perception of that are of importance when arranging for data collection as well as giving meaning to the data collected. Creswell (2007, p. 125) sees rapports as necessary to stimulate informants to release all that they know in relation to the phenomenon being investigated. However, Seidman (2006, p. 100) argues that notwithstanding the ease of creating rapport based on the same suppositions that originate from shared experiences, it behooves on an interviewer to maintain less intimacy with the participant so that s/he is able to pose questions that would actually allow a probe into the subject matter rather than each one of them telling his/her assumptions on the subject matter. Prior to setting dates, times and places for all the interviews, I had to do the first pilot test of my research and interview questions, I had to establish rapport with my prospective informants to get to know them better and to start to create the feeling that the interviews were going to be held in an informal environment with a prevailing serene atmosphere. I interviewed my informants at convenient places that allowed them to give me as much information as I wanted (see Creswell, 2007, p. 125).

A pilot test is considered to be another important element in preparing for an interview (Turner, 2010, p. 757). It is important to ensure to use people who are interested in what the researcher seeks to study for the pilot test just as your prospective informants. The rationale behind pilot testing is to offer the researcher the opportunity to see if there are loopholes in his/her research questions and research instrument in order to fix them beforehand. (ibid, p. 757.) I first pilot tested my research instrument

with a person who doubles as my lecturer and a school principal. Doing this was useful in that it allowed me to fine-tune my questions and to determine the length of time that was appropriate for one interview. Pilot testing to estimate the time needed for one interview was necessary because Rasmussen, Ostergaard and Bechman (2006, pp. 99-100) state that there could be no fixed least amount of time needed for in-depth interviews, but assert that for such interviews to be labeled in-depth interviews, they should have a lower allowable time of about 30 minutes and an ultimate time of two hours for the interview to be efficient since both the inquirer and the subject become tired at this upper limit.

Prior to my interviews, the lecturer I used for pilot testing my questions cautioned me to be mindful of the fact that Finns like to think about a question carefully enough before they provide an answer to avoid giving wrong answers. I heeded to this caution by allowing all my informants to answer my questions at their own pace.

4.6 Data analysis

Analysis of data is about finding a method or methods to extract what we view to be useful meaning in the data we have taken (Ely, Anzul, Friedman, Garner, & Steinmetz, 1991, p. 140). According to them, this involves downsizing the data, giving recognition to themes that matter, combining them and presenting the findings in the best economical way that would be of interest to readers. They conclude that what emerges from the analysis is a production that is fundamental to what was learned. A similar explanation is that qualitative analysis requires of the researcher to break and create divisions from the raw data and code just as they fit what is studied (Boeije 2010, p. 76). This is followed by bringing together the various divisions in a way that shows relationships amongst them for the generation of theoretical insight of the subject matter being investigated. Both breaking the data into segments and recombining must be accomplished within the framework of the research questions. (ibid, p. 76.)

Prior to the commencement of data analysis, it is required of the data analyst to familiarise him or herself with the information at hand through repetitive reading to look out for some particular words, phrases, patterns of behaviour, subject's thinking modes, and outstanding recurrent events that relate to the subject matter under study (Bogdan & Biklen, 2007, p. 173). Doing this is to allow the data analyst to generate a

coding system to make interpretation easier (ibid). This notwithstanding, research evidence shows that the analysis of case study data is especially an onerous task because there is a lack of clarity as to the strategies and techniques to employ (Yin, 2003, p.109). What is important is that every case study should step up efforts to draw a general strategy for analysis; thus, being able to point out what to analyse and the rationale behind it (ibid).

4.7   Description of data analysis

I employed thematic analysis and thematic network analysis in this study. Whereas thematic analysis entails the recognition, the analysis and the presentation of the dominant ideas from a data (Braun & Clarke, 2006, p. 79; Attride-Sterling, 2001, p. 387), thematic network analysis embraces using a web-like network to make it easier to organize and present a synopsis of these dominant ideas of the study (Attride-Sterling, 2001, pp. 386-387). Thematic network analysis entails eliciting: "(i) lowest order premises evident in the text (Basic Themes), (ii) categories of basic themes grouped together to summarize more abstract principles (Organizing Themes), and (iii) super-ordinate themes encapsulating the principal metaphors in the text as a whole (Global Themes)" (Attride-Sterling, 2001, p. 388). Thematic analysis was chosen because of its numerous advantages, especially, because it allows flexibility, and allows me as a novice researcher to learn within a short time without any difficulty how to do the qualitative analysis (see Braun & Clarke, 2006, p. 97). Using a thematic network structure is to give structural depiction of an epitome of my entire results and findings and for readers to easily see what has been achieved and how it has been achieved (see appendices 1-5).

The data analysis was not theory-driven thematic analysis but rather data-driven thematic analysis. Data-driven thematic analysis gives a richer description of the data than theoretical analysis. (Braun & Clarke, 2006, pp. 83- 84.) Familiarization with my data began from the interactive interviews I conducted for data collection. I began my data analysis by playing and thoroughly listening to my audio-recorded data and converting it verbatim into a written material. Before I declared my transcription complete, I had to play the audio data over again while comparing it with its conversion into the written form to ensure nothing was omitted. The next thing to do was to further

process a copy of the data by excluding any material that was not mentioned by my interviewees or mentioned but irrelevant to my study. Transforming my data this way was consistent with the assertion by Miles and Huberman (1994, p. 50) that the direct tape recordings can undergo processing whereby the researcher for example listens to the recording, takes down notes, makes extracts, makes discernments or makes categorizations to reflect some ranking or grading. I integrated relevant ideas from the notes I jotted down during my interviews into the transcribed data and actively immersed myself in the whole data while at the same time noting down important themes (see Braun & Clarke, 2006, p. 87).

I then searched for commonly recurrent lowest order premises that significantly relate to my research questions (see Attride-Sterling, 2001, p. 388; Braun & Clarke, 2006, p. 82) and other themes that are also of importance to my subject matter in general. As described by Braun and Clarke (2006, p. 86), I made annotated notes alongside the identification and coding of the themes right down from the lowest order themes through to the super-ordinate themes. I used different colour coding for the themes identified in a way that showed their order of importance to each category. The colour coding was red for the most important finding (global themes), blue for a very important finding (organizing), pink for an important finding (basic themes) (see appendices 1-5), and brown for other important findings (meaning items). The next thing I did was to review (see Braun & Clarke, 2006, pp. 87, 91) and recombine the various lowest-order themes into first organizing themes (see Attride-Sterling, 2001, p. 388) that corresponded to my four research questions and my topic in general.

During the review of the themes that emerged from my data, I realized that some themes needed to be combined while some of them were discarded because there was inadequate information to define them. It was necessary at this stage to ascertain if there was a clear dialogue between the themes and excerpts from my data that explained them. Once I was certain with this, it became necessary to also ensure that all the themes I established demonstrated consistency with the entire data (see Braun & Clarke, 2006, pp. 91-2). In the section under results and theoretical embodiment, I described these categories as much as possible in detail so that readers can figure out which themes constituted these categories (see Braun & Clarke, 2006, p. 83).

All the themes that emerged from my data were then defined and captioned. The various themes: the basic themes (in blue), the organizing themes (in pink) and the global themes (in red) are presented in a web-like network structure (see Braun &

Clarke, 2006, p. 92, see Attride-Sterling, 2001, p. 388) (see appendices 1-5). I summarized the organizing themes into global themes (see Attride-Sterling, 2001, p. 388). Based on my data, I had a total of ten global themes (see p. 61): the pre-involvement stage, the actual involvement stage, the post-involvement or transferability stage, organizational interpretation and prioritization and action stage, the constructive feedback stage, preparing to act on interpretation of information, creation of organizational climate conducive to change, anticipating change versus reacting to change, general benefits from external networking activities, and recommendations for the recruitment of the future leaders for the college (see chapters 5 and 6). The first seven of these global themes together directly answered my four research questions and produced the last three themes as part of the holistic learning, i.e. the general benefits derived from the management process of anticipatory networked learning.

Having applied thematic and thematic network analysis as described above (see p. 63 & appendices 1-5), I finally authored the multifaceted and multidimensional story of the data (see Braun & Clarke, 2006, p. 93) alongside what I term the *theoretical embodiment* - a process of identifying *thinking units* from my literature review and appropriately applying them to my results. Ely et al. (1991, p. 143) explain *thinking units* as the contributions made by authorities in any given academic discipline. In my report, the global themes and organizing themes are used as headings and subheadings respectively, and the basic themes embedded within them. Moreover, I included some verbatim statements made by my interviewees (see Burnard, 1996, p. 279).

The first five of the ten global themes earlier mentioned above constituted the main stages of the *management process of anticipatory external networked learning* in the college (chapter 5). These stages have been depicted by a table (see p. 67) and also translated into a five stage *flexible iterative model* as indicated under conclusions and implications for practice or policy (chapter 6) due to the analysis outcome that the college's reliance on external networked learning to anticipate change is a repetitive process that begins from one point and continues through other stages and then returns back to the beginning (see p. 106). The sixth and the seventh global themes have been uncovered from the data as the facilitating stages for the accomplishment of the five stage iterative flexible model as well as the eighth, ninth, and tenth global themes.

5   RESULTS OF DATA ANALYSIS AND DISCUSSIONS

To elicit the answers to the research problem, how this vocation educational organization uses its external networks to anticipate and lead change, the following four research questions were used: 1. Why is the vocational college involved in external networked learning? 2. How is the vocational college involved in external networked learning? 3. What intelligence has the college gathered from its external networks and how has it been using it to anticipate its future? 4. What are the new emerging issues the college should consider to anticipate its future? Based on these, the research interviews were conducted in the form of semi-structured interview questions, which allowed the researcher to place further questions in the course of the interview.

Agreements about ethical considerations neither permitted me to mention the name of the case organization, nor the names of the interviewees. I had seven individual interviews involving leaders serving in various capacities of the organization, and one focus group interview comprising five teachers. I refer to the seven leaders interviewed individually as leaders A, B, C, D, E, F and G, and the group interview as a focus group.

It is important to mention that originally my focus was to interview only the seven leaders, which explained why most of the findings from the data analysis came from them. It later became necessary to interview also teachers to see what they had to say about anticipating change in their college. This was to capture their views on weak signals and errors concerning the leaders and students that were not identified by the leaders. In line with the previous, the term "all interviewees or all informants" used in this study refers to all the seven leaders and all the five teachers of the focus group interviewed.

5.1 Five main stages of the management process of anticipatory external networked learning

Table 2 is the outcome of data analysis that shows the five main stages, the facilitating stages, and the resultant general benefits (holistic learning) of the management process of anticipatory external networked learning in my case vocational educational organization. Although my literature review looked at anticipating change as encompassing preliminary and main anticipatory management processes, the findings of the study as shown in Table 2 and Figure 3 demonstrate strong leadership capacities of the leaders in this college in leading anticipatory change.

TABLE 2. Management and leadership process and outcome of five-stage anticipatory external networked learning

*Outcome: General benefits: Holistic learning resulting from managing anticipatory external networked change

Organizational climate and culture conducive to anticipation of change needs

Stage 1 Pre-involvement	*Stage 2* Actual involvement	*Stage 3* Post-involve-ment or transferability	*Stage 4* Organizational interpretation, prioritization and action	*Stage 5* Constructive feedback
7 motives to initiate networking	creating enabling environment	detecting true and false intelligence and interpretation	2nd round of interpretation and prioritization	evaluating an imple-mented change, sharing evaluative information
13 criteria for net-working	facilitating collaborative network activities	resorting to second opinion in interpretation	establishing common goal: sharing, communication, trust	benchmarking, appreciative inquiry of success, tackling failure
understanding what anticipation of change entails	intelligence gathering, 16 detected signals		mobilization of resources	retrospective collaborative (deutero) learning and new anticipatory learning
			unity of direction	constituting new round of motives

Stage 6 Preparation to act on interpretation of information and developing organizational culture

Stages 1-6 are **process** components

Organizational climate and culture conducive to anticipation of change needs

* Outcome: Holistic learning for managing anticipatory change. This comprises changes already implemented, changes now under implementation, changes yet to be considered for implementation, comparison between anticipating change and reacting to change, additional gains accrued from external networking activities, and requirements of future principals/leaders of the vocational college, and intelligence gathering at *stage two: the actual involvement stage*.

The first stage is the *pre-involvement stage* that deals with one's motives, initiation of network, and criteria for successful networking. It also involves gaining insight into the importance of anticipating change and creating an organizational climate necessary to encourage anticipatory learning. This stage answered why the vocational educational organization is involved in external networked learning. It is the first stage because according to the data, motives drive the college to engage in networking. The second stage is the *actual involvement stage* and it contributed to answering research questions two, three and four. According to the data, this stage is the second stage because the college has to play roles in its networks in order to satisfy its motives and identify new emerging issues. The third stage is the *post-involvement or transferability stage*. This stage contributed to answering research questions three and four. Data revealed this to be the third stage because answers found to motives and the new emerging issues detected, have to be reported to the college for consideration and action. The fourth stage is the *organizational interpretation, prioritization, and action stage*. This stage contributed to addressing research questions three and four. The data unveiled this stage as the fourth stage because whatever idea or signal that is reported to the college has to be subjected to organizational interpretation before organizational learning will take place. The fifth stage is the *constructive feedback stage,* which contributed to answering all the four research questions. Data analysis showed this to be the fifth stage because it is at this stage that the college evaluates the outcome and the entire process of change to see whether objectives were achieved or not. Based upon the evaluative information, the college identifies emerging issues that constitute a new round of motives that could drive the college back to already existing networks or forge new networks to address them.

Firstly, the first five main stages were elaborated further and, secondly, later in this chapter (pp. 95-104), the facilitating stages, and the resultant general benefits as part of the holistic learning (partly referring to comparison between anticipating change and reacting to change, benefits accrued from external networking activities, and

recommendations for the recruitment of future principals/leaders for the college) were discussed.

5.2 Stage one: Pre-involvement stage – motives to initiate external networks, and criteria for successful networking

All the leaders and the focus group interviewed stated that their involvement in external networked learning is prompted by motives they want to address. According to them, external networked learning usually begins with one party approaching another to talk about his/her motives for which he/she seeks the other party's consent for a possible commencement of networked learning. They all emphasized the importance of criteria that must serve as a guide in the selection of which organization or persons to network with. Some of these criteria, based upon mutual agreement, could also become the framework that governs the smooth operations of network activities for the attainment of motives. The non-observance of the agreed upon criteria by any actor could lead to a break-up in the networking relationship and may also destroy trust for any future need to network. Jackson and Temperley (2007, p. 51) conclude that the absence of trust and effective communication will lead to the non-emergence of networked learning relationships. The motives will be discussed next, to be followed by the criteria.

5.2.1   Motives to initiate external networks

Seven key motives were uncovered by the anlaysis of data: being a pacesetter in the vocational education sector, familiarity with the organizational culture and critical people in the Finnish educational hierarchy, the relatively small size of the Finnish population, external antennae for business opportunity recognition and exploitation, growing perception of vocational education in Finland as prestigious, negotiating and arranging on- the job-learning for students and professional development activities for teachers, and organizing and executing joint projects.

Leaders A and F mentioned that it is always the goal of their college to be the *pacesetter* in the vocational education sector. Being a *pacesetter* is consistent with what Hamel and Prahalad (1994, p. 46) describe as vying for *industry foresight* and *intellectual leadership*. Leaders A and E explained that despite their college's enviable achievements, they always keep in mind that the way it does things is not always the

best, or once best is never the best forever. This agrees with preoccupation with success as much as with failure in order to avoid the curse of success (Weick & Sutcliffe, 2007, pp. 52-53). All the interviewees mentioned that if the college is complacent with the fact that it is always the best and does not seek to continuously improve, it risks being blindsided, or it risks deterioration in performance. Thus, it can't see into the future any longer to identify emerging issues, and as such can't assure itself of continuous improvement. The college tries to avoid being complacent with its achievements by training and sending its staff into its external environments to import fresh and new ideas.

Leaders C and D mentioned *familiarity with the organizational culture and critical people of the Finnish educational system* to be of particular importance for new employees. According to them, the Finnish educational system is relatively big, and therefore, not possible for one to remain just inside the college to know everything about its culture and critical people. The culture of the Finnish educational system tells the new employee how to go about his/her work. Critical people are not only needed to tell a new employee about the organizational culture but also to help him/her with for example, the tacit knowledge that might be needed to do his/her work.

> I was fortunate to meet a person.... probably the most active and important person at that time. My boss at that time happened to be highly valued both in this town and nationally. He was the director of the Finnish Board of Education. He was a very wise man …he introduced me to every important persons he knew already….so what I think is important now is that the senior person sees the young person and opens up the doors and introduces this young person to how to do things. He moved around with me to learn these things gradually which helped me to take responsibility of all matters within my jurisdiction. Without transferring his networks to me, I would have definitely encountered difficulties doing my work.   -Leader D

According to leaders A and C, the *relatively small size of the Finnish population* may not permit them to know everything they need to know about the world from which they can draw lessons that concern the future of the college. Getting a big picture of the world and drawing from it to build the future of their college requires that they have to spend more time to establish external relations with the right people in the right fields as they participate in events such as international conferences and seminars around the world for the sharing and exchange of ideas and for co-construction of new ideas about their future needs. Leader E stated that interaction in their various networks is like

seeing through a crystal ball that helps them to get more information about the future of their college than they may get or give out in a free market economy. Cheney et al. (2004, p. 162) noted that interorganizational relations offer opportunity for the actors involved to share intellectual capital.

Leader C posited that hearing from different organizations about their different perspectives, reasons, and solutions to both common and different future problems help them to draw a big picture to answer to questions such as: What will probably change in the future? How will that probably affect the college and society at large? Determining the right questions to ask to expose an organization's inadequacies in its knowledge structure and being able to figure out where the right answers can be constructed is consistent with active scanning (see Day & Schoemaker, 2006, pp. 28-51). Leader C added that without interactions with their broader external environments they will have a myopic view of their external world. A second dimension of organizational myopia as claimed by Levinthal and March (1993, p. 101) is the reliance on immediate environments to inform organizational learning rather than on a larger picture. Leader C stressed that it is essential to hear those insights that diverse organizations have about the future, and try to make a synthesis of them to determine their future. Hamel and Prahalad (1994, p. 49) argued that reaching a particular future is a function of industry foresight rather than a vision. This foresight is the fusion of the different visions of scores of people (ibid, p. 49).

> I network to get a picture of the world's future: to learn to understand the world, to have a sense of where it is going. I am a big picture person - I always want to see a big picture, I can't quantify it but don't know why I do this…. I always try to read people and try to understand why they do what they do, and that is why contacts are very important, no matter what the business is or has been.
>
> - Leader C

It was mentioned by leader B that the college's external networks serve as *external antennae for business opportunity recognition and exploitation.* External networking to get to know the cultures of other countries, valuing, and appreciating them could be an antenna through which business opportunities could be spotted and exploited. This leader claimed Asian culture is excellent but Finns do not realize that yet for them to adopt a lot from it to create a new future for Finland. Networking with the Vietnamese for example enabled leader B to get to know a lot about Asian culture and critical people to do business with. Following the acquisition of knowledge about Asian culture and getting to know the right people, the college spotted the opportunity to tailor skill

training for Finnish employees for export to Vietnam. By doing business with the Vietnamese, the college is getting to know a lot about Chinese culture that can be used as a window for business opportunity recognition.

Leaders D and C relied on their networks as antennae to familiarize themselves with developments in industry. These antennae helped them to gain deeper and broader insight about their future, and without which they can only have a narrow view about the future. For example, having these antennae help leader D to know whether industries need labour supply from the college or not. She lamented that her college's lack of *industrial antennae* in the past deprived them of anticipating shortage of labour at one point and that compelled them to face an onerous and costly task of recruiting employees from China. This confirms that failure to anticipate change will result in becoming a victim of change (see e.g, Harper, 2000, p. 76; Ashley & Morrison, 1997, p. 47).

Another driver to engage in external networking is the *growing perception of vocational education in Finland as reputable*. According to leader D, unlike the past, vocational education is now very much valued in Finland. Their networks provide opportunities for them to identify emerging issues in the vocational education sector and to seek to know how to address them in order to continue to add more value to their products and services. These networks are used, for example, to find out the position of their college within Europe. They determine this based upon the many people who quite often approach them during international networking activities to inquire about the secret behind the success of Finnish education. Leader D interpreted this to mean that many eyes are on Finnish education including vocational education, and that means people will continue to expect so much from them.

Moreover, *negotiating and arranging on-the-job-learning for students and professional development activities for teachers* were also found to be reasons the college engages in external networks. While teachers engage in international networks to negotiate and arrange for places where their students can go for their 20-week on-the-job-learning, leaders look for and arrange opportunities for teachers' professional development.

Lastly, leader G shared that the college participates in external networks to *seek partners for the formation of possible alliances for the exploitation of their complementarities* in terms of resources and competences so as to create synergy for the execution of future joint projects that bring mutual benefits. For example, the college

engages in collaborative learning with some other colleges to design their future curriculum and study plans. According to Child and Faulkner (1998, p. 18), complementary alliance is one form of cooperative strategy that permits partners to contribute in ways to enhance their individual competences and competitive advantages.

5.2.2 Criteria for successful external networking

The thirteen criteria teased out from the data were: win-win outcome, interests or 'connection points', risk taking propensity, experience/reliability, open-mindedness and enthusiastic attitude, trustworthiness, approachability and a possession of networking abilities and skills, long span planning ability, popularity, age range of students, availability of resources, flexibility for pragmatism, and safety to network.

All the leaders and the focus group interviewed emphasized that networking could begin on the basis of win-lose, but the most important thing is that the *long-term outcome must be win-win*. The networking relationship will be sustained for as long as it is needed but may collapse if one party keeps winning while the other keeps losing. Consistent with win-lose relationship is opportunism which must be prevented by complex contracting and hierarchy (Williamson, 1993, p. 97).

Most of the interviewees mentioned the *popularity of an organization or a person* as a criterion. The college considers whether an organization/person it is seeking to network with or one that is seeking to network with it is well vested and famous in its field of business. An organization's or a person's popularity can be confirmed if many sources such as the print and electronic media give credible news about it. It is important to know such an organization/person beforehand because it is easier to network with organizations or persons you already know pretty well.

All the informants including the focus group agreed there must be *interests or 'connection points'* prior to any sort of networking. It was emphasized that the more the *connection points* between two or more parties, the more the likelihood to collaborate to realize them. The college places priority on exchanging what it already has with critical resources and competences it needs but does not have. A common motivating factor for prospective partners to forge an alliance is when they are deficient in a resource or a skill needed to address a need or an opportunity but they seem to be able to supply each others' inadequacies to be able to meet them (Child & Faulkner, 1998, p. 98).

Some of the interviewees saw *trust* as a very important criterion to consider when it comes to whom to network with. People must promise to do only what they can

do and must do them within agreed schedules and deadlines for trust to continue to exist. Trust is needed to ensure that the objectives of the network will be achieved for the smooth running of the network and for its continuity. This agrees with the claim by Child and Faulkner (1998, p. 45) that cooperation between organizations leads to the emergence of mutual interdependence and trust is necessary for it to be effective.

Leaders A, B, and E saw *experience/reliability* as an equally important point to consider in determining the suitability of whom to network with. They stated that the college networks with only already well-experienced or well-performing organizations and individuals because they have a lot to offer. These entities or individuals must be in the same or similar fields of business as the college to make it easier to share experiences and develop new ideas and competences.

Leader G was of the view that the college needs to be sure if it has *time and other necessary available resources* needed to engage in any particular network. Availability of time and other resources is crucial for the initiation and managing of networks to achieve results. However, prior to devoting any resource to any network, the college deems it fit to conduct the necessary due diligence to ensure whether those seeking to network with them have any complementarities to offer.

It was mentioned by leader A that the *risk taking propensity* of any individual or an organization seeking to network with the college must be assessed. Sometimes, there is uncertainty at the beginning as to whether you are going to gain or lose from your involvement in networking. However, you may never get involved in networking if you always fear to lose, but calculated standard risk taking is required to ensure you can gain from most of your networking activities. This risk taking should be based on evidence that a prospective networking partner has something valuable to offer. Thus predicting the usefulness of a prospective partner should be backed by credible evidence (see Hodson, 2003, p. 648; Mullins, 2009, p. 42). In line with this standard risk taking as stated by leader A is the assertion by Hamel and Prahalad (1994, p. 178-179) that the associated risks of pioneering the future for example should not match up to the pay offs thereof.

Leaders C and D were concerned with *open-mindedness and an enthusiastic attitude* to be considered as qualities that must be possessed by anyone or an organization interested in networking with the college. Open-mindedness is required by all networking actors to encourage sharing and deliberations on issues for mutual

benefit. Closed-mindedness and/or lukewarm attitude towards activities of the network could thwart the achievement of goals and objectives.

Leaders C and D again mentioned *approachability of the prospective network co-actors and their possession of networking abilities and skills* as one of the criteria they consider before accepting to network with any person or an organization. Thus they see to it that they network with organizations/persons that can easily get along well with people. Networks comprise people and attaining results in solving future problems is based on being nice to people to encourage working together.

Data analysis revealed the college considers *long-range planning* abilities of organizations before deciding to network with them. Long-range planning gives more space to draw strategies and to make changes if necessary. Thus, it allows more time to prepare to execute tasks. This is required because according to leader C, some people, especially in Finland like to do things in a hurry, which often leads to wrong decisions, and as a consequence to a chaos.

Leader F raised the issue of the *age range of students*. The college requires that the *age range of students* of other vocational colleges seeking to network with them must be the same as their students. This is because students of different ages in Finland have different needs, strengths and weaknesses. But since the main goal of networking is to benefit the students of the college, the same age range is important as a leveled playing field for all the students. In connection with this, Child and Faulkner (1998, p. 98) noted that in the selection of the ideal partner for the formation of alliances, organizations are in favour of prospective partners that resemble in size and stature, necessary to reduce the risk of domination, curtail too much dependence, and to attain a fair balance of advantages.

The majority of the interviewees dwelt on *flexibility for pragmatism* to be given attention to when thinking about potential networks. Flexibility and understanding are needed in order to do what needs to be done at any given time. There should be no hard and fast rules about continuous engagement in networking if there is a chance that the results might not be achieved.

A teacher of the focus group interview mentioned *safety* as a necessary criterion to take into account when it becomes necessary to network. It is safer to keep old networks than to establish new ones because they may not be able to predict the outcome of forging new ones. The teacher, however, stressed that there must be a sense of 'safety' even in new networks, and saw this as necessary because their ultimate aim

of networking is that the outcome must improve their students' welfare, not to jeopardize it.

5.3 Stage two: Actual involvement stage: Enabling environment, network activities, learning

This stage comprises three key components: the necessary enabling environment that facilitates playing roles or undertaking activities in networks for the identification of emerging issues, undertaking activities in networks, and learning (intelligence gathering) from networks. Intelligence in this study refers to information, data, knowledge, wisdom or learning that is generated from external networking activities.

5.3.1 Enabling environment

It is necessary to create an enabling environment (i.e. features of organizing) to facilitate undertaking activities in networks for the identification of emerging issues. This environment comprised three key elements: resources and provisions to encourage participation in networks and successful learning, factors facilitating successful learning from networks, and the methods of learning. These can be tied to features of organizing that can either encourage or impede error/weak signal detection and their reportage (see Edmonson 1999, p. 356; Pfeffer & Sutton, 2000, pp. 124-125; Robbins, 2000, p. 124; Weick & Sutcliffe, 2007, pp. 49-50).

All the informants stressed the availability of certain *resources and provisions to encourage participation and successful learning* in their networks. These included skills in a foreign language which help to minimize language barriers to facilitate business activities - leader B mentioned that the Chinese appreciate very much if their prospective foreign business partner is able to speak some Chinese, sufficient funds for organizing participation in network activities, and availability of time. Other provisions mentioned to encourage scanning were opening new doors for both the teaching and non-teaching staff and students such as allowing them to participate in conferences, meetings, and seminars involving vocational colleges and industry, creation of discussion forums, and making available both the print and electronic media in order to be vigilant and be abreast with new developments in the external environment.

Factors that facilitate successful learning from networks included positive attitudes towards learning, the presence of right climate and atmosphere (encompassing superiors' positive attitude towards teachers and students in terms of valuing them highly by encouraging and giving them the support they need), putting teachers to projects/networks that fit their interest and capabilities, and having the capability to put the identified puzzle-like pieces together. The rest included tolerating and understanding the different thinking modes of the various actors in the networks on account of their different worldviews, and knowing critical people in different places where you do or want to do business. Leader B mentioned for instance that if you want to start any project in China, it is completely impossible if you don't first establish critical contacts there.

Appreciative inquiry, benchmarking, scenarios, and trend analysis were addressed by all the informants as the learning methods they rely on in their networks to successfully learn about the college's future. Additionally, leader D mentioned 'informed intuitive guesses' as one of the learning methods.

5.3.2 Facilitative network activities

All interviewees mentioned that performing activities in their networks serve the purpose of identifying weak signals that matter for the future of their college. The activities performed vary greatly and depend largely on the motives of actors in the network and are governed by the laid down criteria. Whoever performs what activity is dictated largely by expert power, or as the situation at hand dictates. Data analysis uncovered ten categories of activities undertaken in external networks.

The first activity borders on *leadership that embraces serving in the capacities as chairperson, project manager/coordinator and network manager*. This entails among other things presiding over meetings, seminars and conferences; seeing to the execution of projects enacted by the network or contracted to the network, and managing the smooth running of the various networks. Leader F observed that serving in any of these capacities enables and encourages people to be active in their various professional organizations**.**

In the second activity, people representing the college in various networks sometimes *play the 'pigeon's role'*, thus acting as channels for the passage of relevant information from their college to their networks and vice versa. This requires actively or

passively listening to sharing of good practices and failures from which one can spot emerging new issues that may concern their future.

The third activity encompasses *benchmarking and Appreciative Inquiry*. Benchmarking in this college entails comparing what the college wants to do with what other colleges and/or organizations want to do to see if there is anything new they could learn to better inform what it wants to do in the future. Organizations employ benchmarking as a tool for the detection of best organizational practices, and for the amelioration of organizational performance by gaining insight into what their rivals know and the speed at which they learn it (Patterson, 1995, p. 4). According to him, benchmarking is designed for the accomplishment of two objectives: concentration on momentous improvements instead of piecemeal improvements, which allows one to spot real-life goals, and as a measurement system it enables one to identify what to benchmark in order to encourage one to measure one's own processes (ibid, p. 8). The college views Appreciative Inquiry as familiarizations with the success stories of other organizations or colleges and registering an interest to draw veritable lessons from them for a possible modification and future application in an innovative manner. Appreciative Inquiry is a method that is uniquely appropriate for organizations that desire to be cooperative, inclusive, and truly attending to the welfare of both organizational members and customers/clients (Johnson & Leavitt, 2001, p. 130). Appreciative Inquiry is a means for organizations to find, grasp, and draw lessons from success, while enacting new images for the future (ibid, p. 130).

The fourth activity is engagement in *collaborative learning*. This embraces co-constructing new knowledge about future change that requires drawing on the expert and general knowledge of network actors. This confirms Jackson and Temperely's (2007, p. 48) three-fields of knowledge model. In some of the college's domestic external networks, group meetings are held every week to discuss about new developments and their future implications not only for the college but as well as other colleges, the entire region where the college is situated, and Finland at large. Questions that are asked and answered to identify emerging issues include for example, who are going to be in this region of Finland tomorrow, how many students are entering secondary and vocational education every year, how many people are going to retire this year or in three years from all sectors of the economy. And how many people will be needed to fill the vacancies to be created.

The fifth activity concerns *formation of groups and teams to enact and execute joint-projects*. An example is the college's active involvement in the activities of Finedu Foundation – a network of Finish Vocational Institutes that sees to the establishment of vocational institutions in Finland and in foreign countries. Others are the college's involvement in regional and national entrepreneurship projects where new ideas are generated and experiences of best entrepreneurial practices are shared to solve future problems.

> For my machinery department, our most important network is industry. We have now constituted a joint team comprising teachers of my department and workers from industry. This team uses coffee breaks or sessions to discuss the sort of education the machinery department should provide to the students so they become useful products to industry.   - Leader G

The sixth activity is *'project-based pedagogy'*. Unlike benchmarking where the college compares what it does with other colleges in order to learn what it does and does not do better, and 'appreciative inquiry' where the college learns from the success stories of other colleges and tries to replicate them innovatively, in 'project-based pedagogy', the college goes to other colleges to share with them its success stories or failures associated with the execution of certain projects. The rationale behind this pedagogy is to encourage the replication of the college's successes throughout other colleges in modified fashions, but also to discourage the repetition of its projects that have proven futile.

The seventh activity is about the *determination of the college's position or standing in international arenas*, especially within the confines of Europe. In their international networks, members of the college look for signals that could attest to the fact that their college is internationally recognized or not. Signals about the popularity of their college include that quite often a bunch of people come to them at international conferences, seminars and meetings to inquire about Finnish education and their college, and their co-actors in their international networks eagerly turn to them to ask if they could coordinate a project for them or form an alliance with them to execute a project.

The eighth activity is about *providing competence-based education*. In order to consolidate its popularity in international arenas and to attract more students and business opportunities, the college provides competence-based education to their

foreign counterparts in response to the realization that it is something new to some of them.

The ninth activity involves the college in negotiating and seeking cooperation with foreign organizations to *arrange on-the-job-learning internships* for a minimum of twenty weeks for their students, and *opportunities for teachers' continuous professional development*. The focus group emphasized that in order to be successful at arranging for these internships, networking in advance with, or prior familiarity, with host organizations-to-be is necessary. This is because quite often organizations not familiar with the college rejected requests for cooperation.

> Teachers on-the-job-training handle their students better after they return. When they return from their on-job-the-training abroad, they talk about how frightening or exciting it was to be a student again, so they understand now how young students also feel about learning...... this helps to know how they as adults can support their young students, and this is something a manager/principal also has to know.... to understand the feelings of his/her subordinates and to know how to serve them better. - Leader D

The college's tenth activity embraces building cultural knowledge and competence: *appreciating, understanding, tolerating and learning foreign cultures* to facilitate international business opportunity recognition and exploitation. E.g. Ptak, Cooper, and Brislin (1995, pp. 430-431) noted that factors facilitating success in projects involving people from different cultures include listening, attentiveness to non-verbal communication, capability to note and construct meaning of differences between cultures.

> The kind of international project we have to be involved in at any given time dictates to us which cultures to tolerate in order to achieve results. Appreciating and valuing the cultures of others, understanding and tolerance for others, are needed by both our teaching and non-teaching staff to be able to deal with the huge number of foreign students who troop in every year to study in our college. We can't allow this huge market of foreign students coming to study in our school to elude us; we want our school to be an international study destination; we want to be the best in international education; hence our members of staff are required to actively involve themselves in international networking activities where they get the opportunity to learn about different cultures.   - Leader B

Tolerating different cultures and their accompanying different modes of thinking are necessary prerequisites that must be fulfilled for a successful initiation, growth and sustenance of business relationships. For instance, performing these activities in

networks involving some Asians countries has enabled the college to succeed in exporting employee recruitment services to Vietnam.

5.3.3 Intelligence gathering

This section directly answers research questions three and four. The intelligence members of the college collect from their external networks is interchangeably termed emerged issues, or emerging issues, or signals. Emerged or emerging issues are divided into three parts: emerging issues already being acted upon by the college to be creating its future (referring to signals 1-7 in appendix 2); an emerged issue already acted upon with results less than expected (referring to signal 8 in appendix 2); new emerging issues to be considered by the college and acted upon to create its new future (referring to signals 9-16 in appendix 2).

The data analysis established that the signals reported in this study were and are important to the college irrespective of whether particular signal/signals was/were mentioned by one informant, two or more informants, the focus group, or all the informants. The college consists of semi-autonomous units. While some of these signals were/are general, some were/are specifically mentioned by some of the units within the college that might not be known to the entire college. The signals discovered by the data analysis were as follows:

Signal 1: Leader F mentioned of the detection by the college that *students lack entrepreneurial mindsets.* This weak signal was partly detected by students' display of lack of entrepreneurial skills while on-the-job-learning and partly by the inability of students to lead responsible lives after school. This signal was attributed to the lack of entrepreneurial studies in the college. Measures to inculcate entrepreneurial skills into students in order to exploit the opportunity behind this signal led the college to seek the cooperation of vocational institutions in the Netherlands because they are the best vested in entrepreneurial studies in Europe. This resulted in the creation of a separate unit for entrepreneurship studies in 2005, and an appointment of head of unit charged with the responsibility to seek the counsel of the relevant vocational institutions in the Netherlands to design a curriculum for entrepreneurship studies. As part of the studies, students are obliged to identify and exploit an opportunity as a minor business project that must earn them some income. Students who continue with their business projects after school are at least able to employ themselves.

The entrepreneurship studies have also led to the improvement of students' performances in on-the-job-learning. The studies also serve as an incubator programme to turn out future entrepreneurs in response to Finland's growing needs for more entrepreneurs both at present and in the future because reliance on the government for jobs after school is no longer tenable for most graduates.

Signal 2: Most of the interviewees had detected from their interactions with their external environments that *students have limited job opportunities after school*. This signal was associated with students' non-flexible working life (i.e., fitting into only limited jobs) after school. According to them, this signal was interpreted as limited courses being offered by the college. Thus to give students a flexible working life, there was the need to offer flexible broad-based courses, including courses on skills for working life, to enable students have the flexibility to choose as many courses as they wish to study provided they have the absorptive capacity to do so. The college's efforts to completely deal with this signal culminated in the creation of an educational consortium consisting of three units: vocational education, general secondary education, and an international school. These collectively provide more flexible and open learning opportunities for students, teachers and non-teachers alike. The consortium also provides flexibility to teaching whereby teachers can teach courses at all the three units. The international school offers students and teachers the opportunity to do internships abroad to learn new things that might be useful to the future of the college and their own future working lives.

> The more we produce graduates that are suitable to companies, the more they succeed in working life…and the more our school becomes popular,… and the more we get better students, and the more we gain. -Leader A

Signal 3: Leader B mentioned the detection by the college that unlike some of their counterparts abroad, *some elderly teaching and non-teaching staff in the college have fear for foreign students*. The college understood this as a possession of little or no intercultural skills by the elderly staff. This fear culminated in relating poorly to the foreign students, which the college sees as constituting a disincentive to foreigners to study in the college. The leaders realized that tolerance and understanding is crucial in doing business with people from diverse cultural backgrounds. They also noted that conversance with global and international relations issues is necessary for the college to welcome the increasing number of foreign students and to expand its customer base. Data analysis showed the college is tackling this signal by engaging both the elderly

people and teachers in intercultural and multicultural activities such as involvement in external networks consisting of multicultural actors. Another response is an increase in the intake of foreign students into the college. The rationale behind this is that the presence of more foreigners in the college will provide more opportunities for between them and the elderly.

> Handling foreign students better makes our school an international destination for foreign students. The more we become an international player in vocational education, the more foreign students we can get…. and this means creation of new networks in the countries the students come from. Through more networks, we get more opportunities, and this means deriving more benefits from them.
>
> - Leader A

Signal 4: S*tudents encounter difficulties while interning in international environments*: This according to the focus group and leader D was interpreted by the college as a lack of international working skills as well as lack of intercultural skills. Getting students involved in on-the-job-learning abroad is one way the college has been responding to this signal. Students from other countries also come to the college to do internships, which is an opportunity for the students of the college to interact with them to learn about their working cultures. Besides, the international school unit of the educational consortium has also been helping to introduce the students to the importance of international relations, globalization and its effects.

It was emphasized by most of the informants that students' and teachers' involvement in on-the-job-learning and professional development abroad respectively do not only make them acquire global working skills to succeed in working in multicultural environments but also facilitate organizational learning. For example, leader B stated that Finns are not quite familiar with foreign culture, but after their involvement in external networking activities with co-actors of different cultural backgrounds, it becomes easier for them to accept that the college continues to open its doors to foreign students.

Signal 5: Leader A signaled that *a huge number of practical nurses are due for retirement in the next three years (i.e., in 2013).* These practical nurses serve as nurse assistants in hospitals, clinics, and they also attend to children (at daycare centers) and the aged. The college understood this signal to be an acute shortage of practical nurses in the next three years that could culminate into a high cost of practical nursing services and perhaps preventable deaths if action is not taken now. The college also interpreted this to mean a booming labour market for practical nurses in three years time, and

decided to admit more students for their practical nursing programme this year (i.e. 2010) than usual so that newly trained practical nurses would be ready to forestall the expected shortage. Preparing to avert this future shortage of practical nurses requires upgrading the practical nursing curriculum and recruitment of teachers accordingly. Leader A emphasized here that the college's intake of students for any particular programme is a reflection of the future need for professionals in that field, thus predicting future change backed by credible evidence (see e.g. Hodson, 2003, p. 648; Mullins, 2009, p. 42).

> If we have to take more students in any of the other programmes such as metal works, electronics, business, etc just as we have done for nursing programme this year, it must be in response to anticipating the future shortage and demand of such professionals by industry. -Leader A

Signal 6: The College is aware of a *backlog of students not employed by industry* nowadays as it used to be. Although the college interpreted this to be probably a mismatch between the amounts of labour industry needs and what it supplies, it awakened to investigate its industrial environment to unravel the big picture behind this signal so as to inform the necessary subsequent actions. The college understands that though it needs to follow and respond to some of these changes in industry, it must not do so in haste, but do it carefully for better results to be attained. As part of efforts to manage this signal, the college has already constituted a team of experts from the college and industry to look deeply into it. This is based on the premise that organizations are open systems that construct data from the environment (Daft & Weick, 1984, p. 285). Probing strategies serve the purposes of collecting extra data, carrying out experiments and constructing options, and for improved grasping of what is behind the peripheral signals (Day & Schoemaker, 2006, p. 100).

Signal 7**:** A teacher of the focus group was very much worried about this phenomenon where unlike some other colleges, some students of their college have developed passive attitude towards skill demonstration classes and their studies in general. According to this group, these students manage to pass their exams and get their certificates even though it is not a justification they have acquired the knowledge and competence expected of them. As a result some of them never get jobs at all or get under-employed in jobs that do not even match their professions. Firstly, the focus group blamed this signal partly on too many theoretically-oriented classes. Secondly, the group cited large class sizes as partly to blame for this signal. It bemoans the

difficulty in arranging skill demonstration lessons for large classes because of the incongruence between the large class sizes and the equipment available. It blames this on the reluctance and delay exhibited by the authorities in funding the procurement of tools and equipment needed for effective small classes. Thirdly, the group related that a teacher's lack of mastery and command over what s/he is teaching is also to blame for students' passivity towards learning.

The focus group emphasized that managing this signal to ward off its escalation is a collective responsibility of all actors: teachers, authorities, parents, and the students themselves. Accordingly, a number of antidotes to avert any harrowing situation that might be behind this growing phenomenon were suggested. Amongst them is the need for students to be motivated to change their attitudes towards their studies. Vocational education as the name suggests, requires that there should be more of practical than theoretical ways for students to learn. The group observed that the young students are more active than the adults, and therefore, prefer activity-based learning more than abstract learning. It is therefore advocating for the creation of more opportunities for learning by doing. A teacher must be creative to be able to design activity-oriented lessons to motivate students to be active. The group attested to the fact that students become active learners if they perceive their teacher to have mastery over the subject matter and can teach it well. Bolman and Deal (2003, p. 210) assert that people take guidance upon realizing that their superiors are believable, properly qualified, and sensible.

> As a laboratory techniques teacher….despite the fact that am heading towards retirement, I need to be very professional in doing my work. The need to urgently upgrade my professional knowledge has been prompted by realizing that, my students often test me in many ways to see if….I am really a guru in laboratory techniques. This has challenged me to be on my toes every now and then…. seeking the latest information about developments in laboratory techniques.
> – A laboratory techniques teacher.

Signal 8: Leader B talked about the need to prepare for an *emerging requirement by industry for job seekers to have IT knowledge*. The college interpreted this as an emerging huge market for IT professionals. Without any evidence from research and/or any form of triangulation to substantiate this emerging signal, the college acted on it based on a mere prediction of a huge demand for IT professionals in the near-future by incorporating IT studies into its curriculum as an area of specialization. Subsequently, many students were enrolled in IT studies and trained to be ready by the time it was

estimated that they would be needed. Unfortunately, by the time they completed their training, it was detected that industry actually needed far less than the number of IT professionals turned out. Though the college prepared for this change, only a handful of the huge number of IT professionals it trained was employed. The college regretted that if it had conducted due diligence it would have been informed about the exact number of IT professionals to train. Day and Schoemaker (2006, pp. 78-79) argue that it is important to triangulate so as to capture multiple views on interpreting information in order to arrive at an in-depth and elaborate interpretation for it to be valued.

*Signal 9***:** Leader D lamented of her college's *failure to anticipate shortage of labour in industry in the past due to lack of 'industrial antennae'*. That is, a lack of constant connection between the college and industry in the past deprived them the opportunity of foreseeing a shortage of labour at one point which compelled them to face an onerous and costly task of recruiting employees from China to fill the labour shortage. This reaction to the labour shortage had to be done within limited time which included introducing the Finnish working culture to the Chinese.

Signal 10: Leader C found it unacceptable after benchmarking that unlike their counterparts that are purely business organizations that treat customer care as their topmost priority, *there is more concern for the hierarchical structures of the Finnish educational institutions than for the needs of* students. For this leader, much attention for the hierarchical structures at the expense of the needs of students could lead to students graduating from school without properly receiving the education and training they deserve. As a consequence, the half-baked graduates produced may have problems finding jobs and might not be able to meaningfully contribute to societal development. According to this leader, if the college wants to realize its aim of producing good quality graduates, the needs of students should be its utmost priority.

Signal 11: The majority of the informants found it worrisome the *upsurge in college graduates preferring to live and work in towns and cities to the rural areas*. Analysis of data indicated that college graduates find it unattractive to live and work in the rural areas. This could mean a loss of domestic business growth opportunities for the college which may result in a continuous mounting of pressure on the jobs in the cities and towns. Leader B blames this signal as partly responsible for the backlog of graduates in the cities not employed by industry. This leader suggested that one way this could be tackled is for the college to liaise with industry for the creation of jobs that are best suited for rural areas but which are attractive enough for people to want to live and

work there. Creation of jobs suited for rural areas and attractive to people could be a new niche market that could turn out to be a mega market tomorrow (see Hamel & Prahalad, 1994, p. 30).

Signal 12: Leader G complained after comparing the college to his former school and other colleges, that unlike teachers in these other schools and colleges, teachers cling unto *inside-out rather than the outside-in approach to teaching*. One identified cause of this growing phenomenon is that some teachers see themselves as not being fluent in English and therefore shy away from participation in international networks where English is the lingua franca. This leader is worried that if teachers just can see a small rather than a big picture of the world, they might be out of step to many new external issues that could unavoidably impact their work internally. This according to him could result in imparting either an outdated or half-baked knowledge to students that might not be useful for their future. Managing this signal can help address issues of bounded rationality (e.g., Simon, 1991, p. 132), organizational myopia (e.g., Levinthal & March, 1993, p. 101) and strategic misfit (cf. Hatch, 997, p. 103).

Signal 13: A striking finding from data analysis was that unlike employees in other organizations and teachers in other colleges (i.e. benchmarking), teachers in some departments of the college feel tired and disappointed and, therefore, just want to do the *minimum amount of work required of them*. Leader G interpreted this signal as lack of teacher motivation which according to him has become a headache for the leaders of the college. Few groups of teachers demonstrate very strong motivation while the majority has low motivation. This leader wondered why teacher motivation was very good in his previous school, but what he has been seeing in this college, especially in his unit, leaves much to be desired. Barnard (1938, p. 93) wrote about the *economy of incentives* in which he emphasized that irrespective of the history or the responsibilities of an individual, he needs to be stimulated to cooperate or he wouldn't cooperate at all.

This leader identified three possible causes as behind this phenomenon: (a) some teachers feel or think that they have lost and continue to gradually lose some working hours, (b) some teachers feel or think the college does not have enough state-of-the-art facilities (e.g. school buildings are not so good), and (c) some teachers feel they have little or no rights to make their own decisions nowadays as it used to be. Leader G saw it as regretful that the climate in his unit is not the best and this has been culminating in poor results of most of their executed projects. To manage these signals, this leader suggested that the college must first create a better motivational working environment,

and then teachers' desire to perform excellently will follow. Bolman and Deal (2003, p. 144) acknowledged that employees do not only need information but also the work they do must give them chances for autonomy, influence, and intrinsic rewards.

Signal 14: Leader B observed that the *Chinese are learning very fast and now giving employee skill and competence training to their own employees*. This leader understood this signal to mean an erosion of the college's current competitive advantage in exporting employee skills and competence training to China in a matter of less than 10 years. This is because the Chinese have imported from them almost all the intellectual capital they need at the moment for these trainings and have learnt fast enough to be currently offering them to their own workforce. He sees it as a big challenge to the college to create disequilibrium in the Chinese current employee training systems by creating novel employee training systems that could indirectly compel the Chinese to continue to import employee training from the college. This agrees with the defensive scenario (Harper, 2000, p. 76).

Signal 15: The focus group considers it unfortunate the loss of external antennae (i.e. anticipatory social capital) to the college as people take along with them their personal network ties in the events of both avoidable and unavoidable employee turnover. Although this signal was detected within the college's internal networks, the focus group insisted it must be mentioned in this report because the college's lack of external antennae means it cannot learn from its external networks to anticipate and lead change. The group wondered if a poor relationship with an employee prior to his/her departure is behind this phenomenon. All the interviewees mentioned it is crucial to have network ties to succeed on the job, especially, when one is a newcomer. They claimed that both avoidable and unavoidable employee turnover costs the college so much anticipatory social capital because people carry along with them their personal ties. Anticipatory social capital as a term coined for this study refers to the formal or informal network ties that purposely enable individuals or the college to identify weak signals necessary to anticipate and lead change. There is now a controversy over whether to bequeath personal network ties to the college in the events of both avoidable and unavoidable employee turnover.

Leader E shared that in Finland even some personal ties based on trust become property of the organization if the owner of these ties is going away. This claim is, however, counteracted by a revelation of an informant of the focus group that the college looks apologetic whenever someone is going away because all the personal ties

owned by that person become a loss to the college. In opposition to handing down personal ties, Mohrman et. al. (2003, p. 317) argued that personal networks should not be taken for granted on account for example, that one of their informants put his informal ties to excellent benefit by using them to create learning networks

An interviewee of the focus group argued that formal ties are automatically the property of the college but personal ones are not. In her view, personal ties can only be negotiated to be bequeathed to the college and could only be possible in the event of unavoidable employee turnover such as when one is due for retirement or suddenly becomes incapacitated following an illness or an accident.

Leader D suggested that people leaving the college should be encouraged to generously bequeath some of their personal ties to their successors-to-be through some sort of apprenticeship to enable them to succeed in their jobs. This is in line with *cognitive apprenticeship*, which is the cognitive training newcomers need to be able to do the tasks assigned to them (Pritchard & Woollard, 2010, p. 56).

5.4   Stage three: Post-involvement stage: transferability of intelligence gathered

Data analysis showed this stage involved two key activities. The first key activity is a first round of interpreting all the signals, during which a signal can be labelled as true intelligence that can either bring an opportunity or threat. A signal can also be defined as false intelligence that can actually bring no threat or opportunity at all. It also happens that the person facing the task of interpretation cannot perform it completely alone. The interpretation stage also involves the definition of which actor(s) of the college the signal affects: whether teachers, students, leaders, educational workers of the college, or the entire college. Ashley and Morrison (1997, p. 50) wrote about the determination of "ownership" of detected signals; thus identifying the group or person to gain from the signal or to be ruined by it.

The second key activity is a first round of prioritizing all the signals before reporting to the college. Prioritization embraces the order of importance of the signals, resource availability including expertise needed to act on them, and the urgency needed to act on any particular signal. According to Jackson and Temperley (2007, p. 49), what is learned in external networks must be taken along by actors to their respective schools

for sharing with their colleagues. Simon (1991, pp. 125 -126) realized that one significant element of organizational learning to take place is internal learning, which is about the transfer of the data that a member or a group of an organization acquires to another, and for subsequent embedment of what is learnt into the organizational memory for present and future use.

Before individuals transfer identified signals to the college, caution must be exercised during prioritization to avoid leaving out important signals or including too many trivial ones. Whoever is reporting signals from external networks to the college must be in a position to justify whether whatever is prioritized matters to the college. If a signal is classified as "can't be unilaterally interpreted", it must still be reported to the college for an expert to interpret it. To be on the safer side, if one is not sure what signals to prioritize, it is advisable s/he reports all the signals gathered to the college for experts to work with them. Weick and Sutcliffe (2007, p. 74) used the term *deference to expertise* to mean referring spotted error to the one who is most knowledgeable about it to handle.

5.5 Stage four: Organizational interpretation, prioritization and action

Two crucial elements were found to encompass this stage: the second stage of interpretation and prioritization, and due diligence to adequately inform a third and final round of interpretation and action on intelligence gathering(s).

The first aspect of this stage entails *a second round of interpretation and prioritization*. It requires a confirmation or a redefinition of who to be affected by the signal(s) and then followed by an advanced collective interpretation by a constituted team comprising who to be affected by the signal and experts. A determination of who to be affected by a signal and unveiling the big picture behind it by experts are consistent with the determination of ownership of the identified signal and the functions of the steering committee respectively (Ashley & Morrsion, 1997, p. 50). Data revealed that collective interpretation process in this college entails: what the signal actually means, thus the benefits expected to be derived if pursued or the consequences the college could face if the signal is ignored; the timing of action on an adequately interpreted signal; and resources needed for action.

The second dimension of this stage was found to be an in-depth probe into prioritized signals to unravel the pros and cons associated with each of them in order to sufficiently inform a third and a final round of interpretation. This agrees with what Day and Schoemaker (2006, p. 80) termed triangulation. In fact, according to leader G, this final round of interpretation of a detected weak signal and whether to act on it or not is based on whose idea is the best as opposed to the general consensus agreed upon by the rest of my interviewees.

Authorities leading the change must have the trust of their people that the change is going to bring them nothing but an improvement in their welfare. This is in agreement with psychological safety (Schein, 1993, p. 89). Once a complete and a certified report on interpretation of an emerging issue is presented to the authorities (similar to what is called *issue brief* by Ashley & Morrison, 1997, p. 49), and it becomes evidently clear that a particular future change is unavoidable, the college will spare no effort to mobilize the needed resources to act on it. However, change implementation will be thwarted if a common goal about the change is not established. In particular, according to leader G, the change must not be an imposition on teachers, but must embrace exhaustively asking and answering the ''why question''. Mohrman et al. (2003, p. 313) found that shared new schemata is necessary for the implementation of a new change otherwise sharing of information about the change will be hampered and people involved in the change process will fall back on their preexisting schemata to execute their tasks.

Most of the leaders stated that prior to change implementation, all communication channels must be exhausted to make adequate information available to encourage people to be open and speak their mind freely without being afraid of leaders. Pfeffer and Sutton (2000, pp. 124-126) noted that leadership that expels fear out of employees is necessary, otherwise fear can firstly lead to a short term orientation, which often triggers off crises in the longer run, and secondly, fear restricts focus to an individual instead of to the collective. One secret that brings about a meteoric rise of an organization is stimulating open and free information sharing across the organization to avert the festering of errors or issues kept under the carpet (ibid, p. 126). Moreover, majority of the informants shared categorically that there must be a demonstration that the capabilities and all other things required for enforcing the change can be mobilized in order to stimulate full commitment to change realization. Encouragement of reportage of information about a needed change is based on *team efficacy*, which refers

to a display of confidence by a team that it has what it takes to make use of information it receives to achieve beneficial outcome (Edmonson, 1999, p. 356).

Other factors were discovered by data analysis as essential to ensure change realization. Change enforcement requires accurate timing and monitoring the implementation process. An organizational climate where people are motivated and granted autonomy toward the implementation of change is needed. Authorities or experts leading the change must continue to walk the talk through this stage to discourage people from going around the set goals. This among other things means that the leader must be vigilant and keep talking to remind people about the set objectives of the change so that autonomy is not abused to the detriment of the outcome of the change process. This agrees with *unity of direction* associated with Fayol (1916, p. 51). Leader G, however, cautioned that vigilance must be exercised through dialogue but not based on authoritarianism or command in order to bring anyone who may deviate from the direction of change back to track. Almost all the leaders said that, they come on stage during change implementation at the right time so as to avoid unnecessary interference. Bolman and Deal (2003, p. 71) noted that whereas a structure that is excessively loose may lead people astray with little idea of the tasks of others, a too restrictive structure stifles flexibility and can give people the courage to sabotage the system.

Data examination also revealed that power relations in the entire change process are pivoted around expert and reward powers. Most interviewees agreed the college is horizontal, which allows a lot of flexibility in whatever it does. This notwithstanding, leader A admitted it is an uphill task to run the college this way. Flexibility in the change implementation strategy allows pragmatism if necessary. Mohrman et al (2003, p. 311) noted that "flexibility enables cross-level, two-way knowledge sharing interaction so that the schemata adjustment develop through mutual interaction and are not perceived as threatening". Leader B was very keen on flexible change implementation process. According to him, if during the change implementation process it becomes unexpectedly but urgently necessary to use certain skills but the change team members do not have them, they have to be equipped with the situational requisite skills to be able to get to where they want to go.

> There is a river we have to cross… we are at one end of the river and our goal is to go to the other end of the river, but how can we reach this goal? We are in a position where we don't have adequate material resources, so we need to create a strategy – the only way to get to the other end of the river is by swimming, so now we know that the skill everyone has to have is swimming. If we now have

many resources and swimming seems to be too slow in the face of an eminent risk of getting drowned, we are compelled to alternatively go by rowing boat. This means we need rowing skills so at least some staff members have to acquire the rowing skills for the organization to be able to cross the river by rowing boat. If it happens that we now have more resources than before and can afford to cross the river much faster by motor-boat, then of course we need someone with the skill to operate the motor-boat to ferry us across the river. So you have to have flexible strategies and always determine what skills you need to implement your strategies. Of course the use of any particular strategy at any given time must be preceded by due diligence.   -Leader B

5.6   Stage five: Constructive feedback in networks

Data analysis showed that reporting the outcome of implemented change to the appropriate network(s) for *constructive feedback* is the final stage of the *external networked learning anticipatory management process*. It comprised three organizing themes: (a) evaluating an implemented change; (b) sharing the success or failure and preoccupation with the success or failure, and (c) collaborative learning to address failure & and anticipatory learning to improve success & leverage it to others.

All the informants stated the importance of *evaluating an implemented change* prior to submission to their appropriate networks for constructive feedback sessions. It must be determined whether the outcome of the implemented change is a success or failure. On one hand, if success is the outcome, the college celebrates it and rewards deserving people who have played instrumental roles in planning and implementing the change. On the other hand, if the outcome is a failure, the college needs to investigate what went wrong.

The majority of the informants were of the view that the outcome of any implemented change, be it success or failure, must be shared, and alongside that, they must be preoccupied with the success, or the failure. Even if the outcome of an implemented change is a success, the college avoids being complacent with it and immediately begins to probe whether once successful is forever successful. According to Weick and Sutcliffe (2007, pp. 52-53), treating success as a manifestation of competence can invoke complacency which in turn leads to a rise in the probability that unexpected occurrences will be left unnoticed over a longer time to escalate. They posited that the optimal approach to preventing this trap is to be engrossed with failure much as with success.

Being certain of the success achieved, the college then embarks upon *'project pedagogy'* – which entails going back to its networks to share the success, or the failure with co-actors for their constructive comments. Mohrman et al. (2003, p. 316) found from their study that few units of a Oilco company organized change implementation evaluation sessions that embraced people from other units and from external companies such as customers and vendors. This 'project pedagogy' is intended to invoke anticipatory discussions on how to sustain the success, improve it, and leverage it to others.

I found from data that during 'project pedagogy', the college's network co-actors are expected to either benchmark or do Appreciative Inquiry to enable them replicate the success achieved but in a modified fashion rather than a mere copycatting. All informants pointed out that any new emerging issues resulting from a successful change or failure constitute a new set of motives for the college to go back to its already existing networks or initiate new ones that it is sure are more capable of helping to realize its motives if it feels the old networks do not have adequate capability to deal with them.

Reasons my informants assigned why a change may fail included misinterpretation of an identified signal, acting upon a false signal, improper implementation of the valid interpretation of a true signal, and resistance of organizational underlying assumptions to new change. Once the outcome of implemented change is a failure, it means some harm would have been caused already, but not doing more still to react to the unexpected events could consequently and inevitably plunge the college into more chaos. The insufficiency of single-loop learning to effect an anticipated change necessitates reliance on double-loop learning to change underlying individual and organizational assumptions that might have become an impediment to progressive change (see for e.g., Argyris, 1993, p. 9).

Overcoming the assumptions that inhibit genuine transformative change might be an antidote to making an organization remain resilient. Resilience is defined by Weick and Sutcliffe (2007, p. 14) as an amalgam of preventing small errors from escalating and circumventing them extemporaneously to allow a system to continue to operate. To be resilient is to manage the unexpected to catch-up rather than to anticipate (ibid, p. 14). Hargreaves and Shirley (2009, pp. 74-75) argued that schools can as well be resilient and described resilience as being capable to recover from disaster.

It came to light from data scrutiny that the rationale behind sharing the failure of any change process with network co-actors is to stimulate *collaborative retrospective learning* to address the failure. According to all my interviewees, at this stage, new signals or blind spots emerging from failure are subjected to a *collaborative retrospective learning* for a new round of co-construction of new solutions to address the failure so that others will not repeat it but learn to do the right thing. Just as others learn from either the college's success or failure, the college also learns from cases of others to identify new emerging issues.

This *collaborative retrospective learning* that takes into account new signals or blind spots arising from the failure is consistent with what G. Bateson (1972), in Haho (2004, p. 240) termed 'deutero-learning', i.e. 'second order learning'. According to Argyris and Schön (1978, p. 27) as mentioned in Haho (2004, p. 240), deutero-learning tasks organizational members to ponder and probe into prior incidents of organizational learning, or the disregard to learn. This learning allows them unearth what actions they took that promoted or stifled learning, which paves way for coming up with new methods for learning, and for them to produce these methods and assess them. This implies that, as posited by Haho (2004, p. 240), it is necessary for organizations to learn how to practice single- and double-loop learning in order for them to capitalize on new strategies, technologies, and processes learnt.

5.7   The facilitative elements in the entire management process of anticipatory external networked learning

I noticed from the data analysis that two indispensable key elements successfully facilitate the entire management process of the anticipatory external networked learning in the empirical unit of my case. These are: and preparation to implement interpretation of data gathered, and the creation of the necessary organizational climate to foster the detection and implementation of anticipatory change needs.

5.7.1   Preparing to act on interpretation of information

According to my data analysis *preparing to act on interpretation of information* is the sixth stage and one of the facilitating elements of the management and leadership process in anticipatory external networked learning. It is centered on four key elements:

(a) trust building between the leaders of the college and all those who will be affected by the implementation of change; (b) mass and sufficient communication; and (c) organizing intellectual resources - education and training to upgrade knowledge and skills, for e.g. acquiring emotional intelligence, and (d) mobilization of non-intellectual resources such as funds, and necessary infrastructure.

Particularly, teachers and students must be made to trust their leaders that whatever the change that is needed is good for the college and it is going to improve their welfare but not to throw their lives into jeopardy. This is in accordance with the need to create psychological safety to pave way for change to be realized (Schein, 1993, p. 89; see also Kotter & Schlesinger, 2008, p. 133). This trust must be built because sometimes it is only the prerogative of leaders to make some final decisions. Successful change requires the involvement of creative and intelligent people, or matching various tasks with the skills and knowledge of change agents. It also demands providing some specific education and training to upgrade knowledge and skills requirements of those to be involved in planning and implementing change. According to Bolman and Deal (2003, p. 370), any change initiative will flounder if efforts are not made to acquire needed new knowledge and skills. Kotter (2007, p. 99) also shares the view of employing, promoting, and training people who can enforce the vision of change.

Emotional intelligence (EI) was mentioned by my informants as one of the crucial intellectual resources needed to plan and implement change. In the context of the college, EI requires that one must know how it feels to say positive or negative things to others. Thus what people say to each other must encourage others to ensure the change process is successful rather than say things that could discourage people and eventually cause the change process to stall. EI defines our capability to handle emotional data (Trenholm & Jensen, 2008, p. 172), and which also refers to smartness about our emotions, is critically important to effective leadership (Goleman, Boyatzis, & McKee, 2002, p. ix). An emotionally competent person is capable to reason about emotions and employs emotions to better inform his/her rationalization (Trenholm & Jensen, 2008, p. 172). Adeptness in primary emotional competence embraces "…being attuned to the feelings of those we deal with, being able to handle disagreements so they do not escalate, having the ability to get into flow states while doing our work" (Goleman, 1995, p. 149). Best output of work is attained when people feel good (Goleman, Boyatzis, & McKee, 2002, p. 14).

In this college, mass and adequate communications are essential to effecting change. Thus all communication channels must be exhausted to get all the actors of the college to understand why a particular change is inevitable. Once the idea about the needed change resonates well with those to be affected by the change, the necessary funds and infrastructure will be secured to implement it. Communicating ideas enable people figure out the necessity for and the rationale of a change (Kotter, & Schlesinger, 2008, p. 134).

Analysis of data showed that anticipating the future can not be done with 100 per cent certainty; hence the need to prepare in the sense of building buffer stock or a 'reaction system' to be able to react to any unexpected events. Leader A argued that preparation to implement change also involves building risk taking propensity and being able to take calculated standard risks, because risk taking is necessary to face the future otherwise nothing can be achieved. According to Kotter (2007, p. 99), risk taking must be promoted as we make efforts to transform our organizations.

5.7.2   Creation of organizational climate conducive to change

Data analysis showed the presence of *organizational climate conducive to change* as the other element that facilitates all the first six stages of the anticipatory external networked learning model. It is also the framework in which the six process components (see table 2) of this model are embedded. All the interviewees agreed that good open climate is a prerequisite for successful scanning of the external environmental and for successful implementation of interpretation of data gathered. For an organization to meet its set objectives for a particular change, it is essential for the organization to enact a suitable climate which fosters openness, candor, and allows room for creativity or non-traditional ideas (Mezias, Grinyer, & Guth, 2001, p. 84). In this college, open good climate as an incentive for intelligence gathering comprised two elements: allocation of power to teachers over some areas in the college to control, and incentive for teachers to engage in external networked learning. A good open climate as an incentive to implement what is learnt is mirrored by: bottom-up idea of change, equal opportunity for everyone to contribute ideas to change, and change must not be an imposition.

Two other elements of a good open climate that encouraged both learning from networks and effecting what was learnt were leaders making adequate information available, and leaders making available room to make mistakes and pardon mistakes. However, leader A categorically stated that repetition of same mistakes more than twice

is prohibited. In high-learning teams, there is an open climate that encourages people to report errors whereas in low-leaning teams errors are concealed because those who commit them are punished (Edmonson, 1999, pp. 372-373). The college rewards ideas that lead to organizational improvement. This agrees with stage six of Kotter's (2007, p. 99) eight steps of transforming your organization.

I teased out from the data that teachers in this college are given power over certain areas that allow them to plan to do something important for the college as long as it is in tune with the strategic mission of the college. This must be facilitated by leaders freely making adequate information available to teachers and encouraging them to be open and freely talk about their work in order to generate new ideas about needed organizational change(s). The rational behind this was to whet up the appetite of teachers and others holding linchpin positions to get involved in scanning their external environments to identify weak signals. The indispensability of good open climate was substantiated by the finding from data analysis that it is not enough for teachers to be oriented towards inside-out approach to teaching, but must update their knowledge and training from outside to enable them improve their performance.

According to leader G, any idea to effect change in this college is easier if it is bottom-up; that is, if the idea comes from the teachers. Thus all my informants stressed that commitment to implementation of change will suffer and the change may consequently stall if the change is only planned by those in higher authority, because the change will be perceived as an imposition. For this reason, planning and execution of change in this college are not top-down approach, but rather involving all those who matter irrespective of their position. This entails listening to, and valuing the ideas of everybody. Consistent with this is the 'Aquarium project' introduced by the Finnish National Board of Education in the early 1990s that involved schools in the exchange of cognitive resources and the circulation of ideas on certain subject disciplines (Loukola, Isoaho, & Lindström, 2001, p. 15). According to Westrum (1993, p. 402), the key measure of effective spread of information in organization is that an organization is in a position to use data wherever it is in the system irrespective of the location or the standing of the person or group in possession of the data. Bolman and Deal (2003, p. 145) found that there have been frequent noticeable outcomes where organizations allowed their employees to participate in decision making that affect their work and working conditions.

Honestly speaking, without a good climate any change to bring about development will be a fiasco. The climate in my unit in the college is not as good as what prevails in my former school. This has been leading to poor results of most of our executed projects. – Leader G

5.8 General benefits from the management process of the anticipatory networked learning

Data analysis uncovered general benefits that constituted integral components of the *holistic learning* that resulted from the management process of the anticipatory networked learning. These were: (a) anticipating and preparing to change versus reaction to change, and (b) additional gains accrued to the college from external networking activities, (c) requirements of future principals/leaders of the college.

5.8.1   Anticipating change versus reacting to change

The college views both anticipating change and reacting to change as important. But nevertheless, the college as a pacesetter in vocational education as revealed by the data analysis asserted that anticipating and preparing to change is always the best thing to do because it offers the chance to consider many possible options and choose the optimal approach. As the intellectual leader in vocational education, the college couldn't wait to react to external drivers of change but to always intrude into the environment to detect weak signals and act accordingly since it believes anticipating the future is not based on looking through a crystal ball to get ideas. This intrusive behaviour of the college agrees with the *enacting mode* of organizations (see Daft & Weick, 1984, p. 288).

Leader C argued that reaction is not good on account that if things are left to the point that we can only react, there is the likelihood that that we would be compelled to take actions that are not the best ones. Delays in detecting and tackling the need for critical change restrict the alternatives that decision-makers can have (Mezias, Grinyer, & Guth, 2001, p. 77). The rest of the informants maintained that some unexpected occurrences need reaction and, immediately the better. While most informants argued that reaction must take place only after sufficient probe into the unexpected event to ensure reaction is appropriate and effective, leader E was of the view that time may not be available to do this probing if reaction must be urgent. For him, due to uncertainty, it is important to prepare in case reaction may be needed because sometimes reacting may either be too slow or one can't react at all if no preparations are made beforehand. He

argued that an advance preparation in the form of economic buffer, or creating 'a reaction system' is needed to even be able to react to contain sudden unexpected events. R. W. Scott refers to buffering as the safeguarding of organizational operations from environmental breakages in availability of resources such as workforce, materials or capital shortages (Hatch & Cunliffe, 2006, p. 65).

Leader G was concerned that where the college must react to unexpected events without any *reaction system* beforehand, a lot of energy might be needed to do so even though this energy is not reserved for that. This according to him puts stress on the mental state of the teachers, and could cause the reaction to falter, stall, or fail. For this reason, he sees it as better to tell teachers what they have to do in advance for them to have ample time to think about it and prepare.

5.8.2   Additional gains accrued from external networking activities

Altogether, I teased out from the data a total of 14 gains the college has so far made from its external networks, which I classified into five. These general gains were part of the constituents of the holistic learning that resulted from the management process of anticipatory learning in my case vocational college. The *first group of these benefits embraces organizational learning and future change*. Firstly, the college's external networks are means to mobilize and leverage social capital, including anticipatory social capital. For example, it is able to import ideas from its external environments for modification and application to its context. The college sees more involvement in external networks as translating into more external antennae through which it can proactively familiarize itself with the external environment to detect weak signals. At the moment, this college cannot be included in the majority of the schools that have been portrayed as not in the habit of creating external antennae (Fullan, 1999, p. 45).

Secondly, the college has acquired the sense of *flexible organizational learning*. This means that members of the college now understand flexibility more than ever before, they now learn more from each other than ever before, which according to leader A sets the stage that in the future they shall continue to learn more from each other. Thirdly, external networking results in *better care for students and teachers.* Fourthly, external networking brings about *improvement in understanding and cooperation among members of the college*. Data analysis indicated that the result of students' and teachers' engagement in external networks is often a drastic reduction in the complaints about the college not having adequate state-of-the-art facilities. Leader A

was very pleased to mention that after teachers and students have compared what schools in other countries have, they come to believe that Finnish schools rather have the state-of-the-art facilities. This confirms that external networking helps prevent or addresses the problems associated with anomie in schools (see Muijs et al, 2010, p.12) and can help forestall the emergence of the general symptoms of organizational anomie (Durkheim, 1978, pp. 173-177; Horton, 1964, pp. 285-6). It follows that schools must be able to determine the genuine needs of students and make provisions for them beforehand in order to avoid anomie in the event that these needs are not met. Anomie cannot be avoided if schools only wait to be forced to react to unexpected change. Learning from networks to anticipate change can help disadvantaged under resourced schools to have the advantage to arrange to use the resources of other schools in their networks well in advance of any future change to forestall disorder.

The fifth benefit is centered on *overcoming anxieties and resistance associated with organizational learning*. Most of my informants agreed that after students and teachers return from their on-the-job-learning and on-the-job-training abroad respectively, it becomes much easier to win their consent to effect a particular change in the college. For example, leader B stated that Finns are not quite familiar with foreign culture, but after their involvement in external networking activities with co-actors of different cultural backgrounds, it becomes easier for them to accept that the college opens its doors to foreign students. This fifth gain appears to be a contributing factor to unfreezing or destabilizing the college (see e.g. Schein, 1993, p. 88).

The second class of advantages concerns improvement in the identity, image and popularity of the college. Sixthly, the college gains good reputation and trustworthiness. As a result it gets extra funding from the Finnish Ministry of Education and the European Union, which other colleges and schools do not get. The college uses this extra funding to engage in more international networks and to acquire more resources for future excellent performance. The Ministry of Education sees the college as a reliable partner because it seeks the common good of all actors in its networks and all vocational students throughout Finland. The good news is that the Finnish National Board of Education pledges more support for school networks in the future (Loukola et. al., 2001, p. 15). The seventh good thing is that the college's broad-based networks make it popular and outstanding as the ideal place for vocational education. According to leaders A and B, the college gets thousands of more students willing to enroll in its study programmes than it could have gotten without external networking. The eighth

gain is that of the college's steady good position among the educational institutions in its region. This means it is valued, listened to, heard, and invited to the same meetings where some future prospects of its region are planned. These make teachers proud that their work is recognized with a resultant feeling of belongingness and worthiness to the college. These in turn motivate them to continuously seek continuous professional advancement for continuous improvement of the college.

The *third division of benefits encompasses the attractiveness of the college to job and business opportunity seekers*. The ninth advantage is seen in the thousands of good job applicants the college gets whenever it posts a job vacancy, which makes it possible to screen and get the best applicants for a possible employment. The tenth advantage is about the college getting new customers and spotting new business opportunities for continuous growth. The eleventh advantage is that due to the college's hard work in its various networks, others find it a force to reckon with, and therefore, esteem it. As a result it receives many invitations every now and then to partner many new networks and projects. For e.g. Saudi Arabia is currently benefiting from the college's cooperation to give employee skill and competence training services to the employees of Saudi Arabian state-owned companies.

The *fourth category of benefits embraces acquisition of resources, international intercultural experience, and global working skills*. The twelfth gain is about the college getting teaching/learning materials at almost no cost from its networks which could have eluded it or have to bear the full cost to acquire if it had no external networks. This confirms what literature says about acquisition of social capital from networks (see e.g. Field, 2005, p. 9; Lin, 1999, p. 35; Misner, Alexander, & Hilliard, 2009, pp. 3-4; Nahapiet & Ghoshal, 1998, pp. 251-254)). More resources could help prevent organizational anomie (see Durkheim, 1978, pp. 173-177; Muijs et al, 2010, p.12).

The *fifth category of benefits concerns acquisition of international intercultural competence and global working skills* (i.e. the thirteenth and fourteenth benefits respectively). The acquisition of these skills makes it much easier for the college to cope better with the ever increasing number of foreign students. As a result, the college graduates are able to work competently in multicultural and international working environments.

5.8.3 Requirements of future principals/leaders of the vocational college

Based on the data examination, seven major findings emerged concerning the mold and caliber of future principals for the college. These additional findings were part of the constituents of the general benefits, i.e. the holistic learning that resulted from the management process of anticipatory learning in my case vocational college. In no order of importance, the first of these future requirements is the possession of anticipatory prowess. Ashley and Morrison (1997, p. 47) wrote about the secret behind the development of anticipatory prowess and how it can be employed in the creation of strategic benefits. An aspiring future principal must be able to see both necessary opportunities for intelligence gathering and having the ability to scan for intelligence that matter for the future of the college. Thus experience in the affairs of teaching and learning should be accompanied by conversance with developments in the college's external environments to construct a strategic fit. The term fit refers to a successful strategy in terms of the attainment of a match between what an organization can achieve and the needs and requirements of its environment (Hatch, 1997, p. 103).

Further, the college principal should have at least three years of experience in genuine business practices. In particular, this college doesn't get the same amount of funding from the government or the European Union as other educational institutions do. This is because it is a business-oriented vocational educational organization, which obliges it to generate profit from its services and products in order to be semi-financially self-sustaining. This makes it obligatory for an aspiring future principal for this college to have a great sense of business acumen.

Also wide-ranging network ties with critically important people in both education and industry are a necessary qualification. It takes time to build network ties with all the important people one needs to know from whom one can derive social capital to perform one's job well. Another qualification requirement is a proven track record of veritable leadership experience and a qualification in human resource management, as the principal is constantly dealing with people of different kinds and backgrounds.

Other required qualities include the ability and commitment to be able to work under difficult conditions such as withstanding pressure, stress, and working voluntarily for extra hours. According to leader B, leading a vocational organization is so demanding that normal working hours will never suffice for a principal to measure up to

expectation, hence the future principal must understand s/he is working full time including extra hours that may not be paid for. Additionally, such a person at any given time must be able to quickly filter a whole lot of information and prioritize the most important ones mattering for the college.

Finally, the future principal must be adept at making flexible strategies. The data analysis indicated that anticipating change is characterized by uncertainty, and in order not to get stuck at any point in pursuing a particular future change, versatility in making strategies is essential.

6   CONCLUSIONS

This chapter discusses the implications of the results for practice and policy in my case vocational educational organization. It also gives a review of the quality of this study, remarks about the study, limitations of the study, and recommendations for future studies.

6.1   Implications of findings for practice or policy

This study set out to uncover the nature of the Finnish vocational educational organization's behaviours associated with anticipating and leading change as informed by what its members learn from both their personal and professional external networks. Without the college's reliance on its external networks, it would have either not seen the need for certain changes, or it would have failed to bring about changes without external support. Mohrman et al. (2003, p. 319) discovered that organizations that relied on their external networks succeeded with their change initiatives while those that did not failed.

During the literature review, I detected that Jackson and Temperley (2007, p. 48) did an excellent job by postulating the *three fields of knowledge networked learning model*. This model is practical, and it is confirmed by this study that the generation of any new knowledge in networks is based on the actors' public knowledge and expertise. However, I found this model not up to the task of networked learning to anticipate change. This is because their model appears to be dealing with the creation of new knowledge to address present problems rather than future problems. I contend that if their model is focusing on learning to cope with present problems, then by the time the solution would be fixed, the problem would have escalated and the solution would have

even outlived its usefulness. The avoidance of this non-timely solution to a problem prompted this study to focus on anticipatory networked learning to create new knowledge today to answer questions that will be asked in the future. This has led to the postulation of *a flexible iterative model of the management process of anticipatory networked learning*, as shown in Figure 3 below.
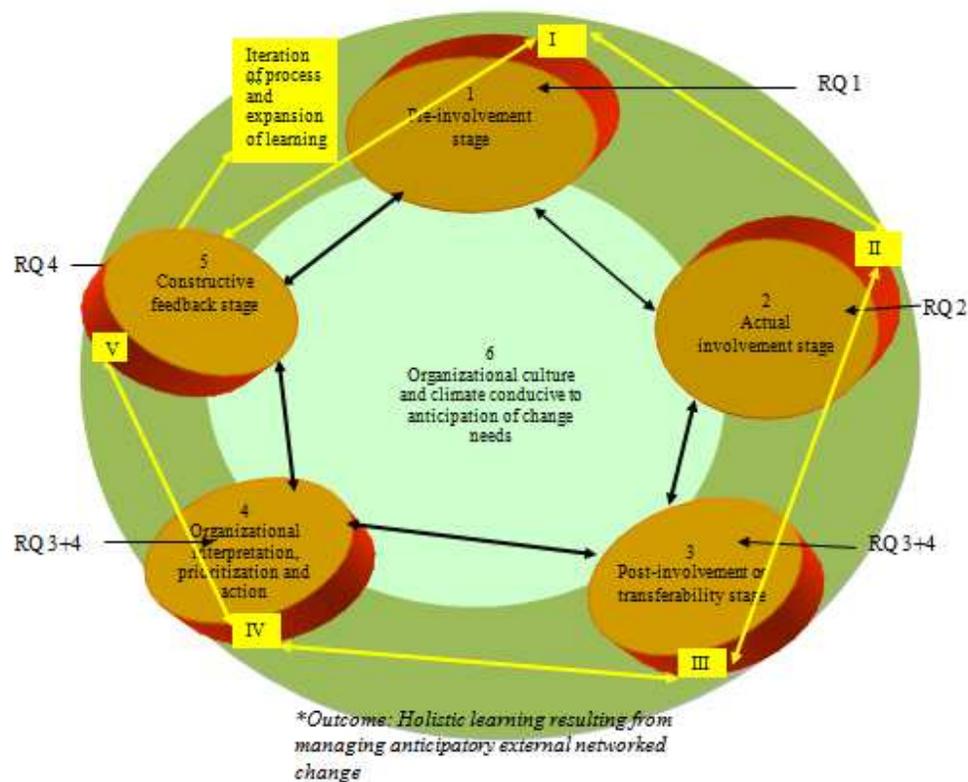
* Outcome: Holistic learning for managing anticipatory change. This comprises changes already implemented, changes now under implementation, changes yet to be considered for implementation, comparison between anticipating change and reacting to change, additional gains accrued from external networking activities, requirements of future principals/leaders of the vocational college, and intelligence gathering at stage two: the actual involvement stage

FIGURE 3. A five-stage flexible iterative model of the management process of anticipatory networked learning

The propounding of my model was also informed and justified by findings from data analysis that all my informants spoke of anticipatory networked learning as a continuous iterative process, and without which they would be blind to their big external environment and could not be broadly anticipatory. The model is flexibly iterative to ensure its effectiveness in fixing solutions today for tomorrow's problems. The five

main stages of this model together with the preparing to act on interpretation of data and organizational climate conducive to change, thus, the sixth and seventh global themes respectively, answered all my four research questions. These together also produced a holistic learning that included the eighth, ninth, and tenth global themes.

It is an undeniable fact that, implicitly, Jackson and Temperley's (2007, p. 48) model appears to compare and contrast with stages 1-3 of my model. While it seems in their model, actors come to the learning situation with predetermined reactionary motives (motives to tackle present problems already identified or yet to be identified), in my model, these predetermined motives, and new emerging ones to be determined are anticipatory. Just as it is the case of their model, my model also requires reliance on public knowledge and the expertise of the network actors to be able to co-construct new knowledge at stage two of figure four. At stage three of figure four are anticipatory knowledge and detected new emerging signals that must be transferred to the concerned network actor's respective organization to anticipate and lead change, but in the case of Jackson and Temperley's model, the new knowledge co-constructed is aimed at fixing present problems.

To answer research question one, at stage one of figure 3 above, members of the college get connected with their wider external environment by initiating networks and/or joining already existing networks as platforms to unveil the big picture behind their already detected motives (i.e., detected errors, weak signals), and also for the identification of new emerging issues through the employment of anticipatory social capital to co-construct knowledge in preparation to respond to them. This suggests the college is preoccupied with failure and hence refuses to simplify errors/signals it detects because if an organization was excessively simple in dealing with its knotty environment, its continued existence might be jeopardized (see e.g. Miller, 1993, p. 118; Weick & Sutcliffe, 2007; p. 9).

The college creates its own future to set the pace for others, which is made possible by the fact that the college has some features of organizing (i.e. the seventh global theme, organizational climate conducive to change) that encourage organizational members to use their external networks to detect weak signals and report them otherwise they may be swept under the carpet. On the contrary, some teachers' inside-out approach rather than outside-in approach to teaching, and some teachers only willing to do the minimum amount of work required of them were attributed to some demotivating factors. These behaviours can prevent detection of errors/weak signals for

organizational learning to occur. Features of organizing can either encourage or impede detection of errors and their reportage (Edmonson, 1999; Leonard-Barton, 1995; Pfeffer & Sutton, 2000, pp. 124-126; Weick & Sutcliffe, 2007, p. 49). The fact that all my informants admit they scan their environments for weak signals and report them to the college suggests that they have little or no problem with Anxieties 1 and 2 as described by Schein (1993, pp. 86-88). Whereas Anxiety 1 refers to one's feeling in connection with lacking the capability or the willingness to accept new change because it is perceived to be an onerous task, Anxiety 2 refers to the fear, shame, or guilt tied to not accepting new change.

However, the college needs to do more to ensure that the identification of errors and weak signals for anticipatory management becomes an organization-wide culture as well as improving all other forms of features of organizing so as to be certain that no error or weak signal eludes the college (see Edmonson, 1999, p. 356; Janis, 1971, pp. 185-186; Miller, 1993, pp. 119-121; Robbins, 2000, p. 124; Starbuck & Milliken, 1988, pp. 329-330; Weick & Sutcliffe, 2007, p.49; Westrum, 1993, p. 402). Because if weak signals cannot be detected and reported, they will be left to worsen until the organization reaches a freefall (see e.g., Holbeche, 2006, p. 159; Pfeffer & Sutton, 2000, p. 127; Weick & Sutcliffe, 2007, p. 9), where it will have no alternative other than to react to remain resilient (Hargreaves & Shirley, 2009, p. 74; Weick & Sutcliffe, 2007, p. 14), or be plunged into demise in the event that it can't contain the unexpected disaster.

The data analysis unearthed that in the past the college lacked industrial antennae. This was consistent with the findings by Fullan (1999, pp. 44-45) and Holmes et al. (1995, p. 28), that most educational institutions are not in the habit of creating external antennae that can allow them to import external ingenuity needed for effective organizational learning to occur. However, contrary to this finding, my data indicated that unlike the past where the college lacked industrial antennae to anticipate a labour shortage in industry that forced them to react when it occurred, it has since learned to anticipate its future through involvement in networks at the domestic, national and international levels. This was evidenced by the college's numerous networks, and its active involvement in their activities indicate it has *porous boundaries* and *scans broadly* as explained by Leonard-Barton (1995, pp. 155-156). This is in fulfillment of the requirement of the systems thinking theory (e.g. Fullan, 2005, pp. 29, 43; Senge, 1990, p. 541) of seeing wholes rather than parts of future events, and that is why the college connects with its external environments as required by the open systems theory

(see Shaftriz et al. 2005, pp. 476-478) to be able to scan for weak signals about future change, and prepare to deal with them before they strike (see e.g. Ashley & Morrison, 1996; Day & Schoemaker, 2006, pp. 50-51). This implies the college acquires future renewing information and resources from its environment in order to be self-sustaining (see Scott, 1997, Scott, 2003, Katz & Kahn, 1966, p. 485; Shafritz et al. 2005, p. 478).

The college's inclination to connect with its external environments to identify weak signals is a demonstration of its understanding of organizational myopism (Levinthal & March, 1993, pp. 97-101), bounded rationality (Simon, 1991, p. 132), limited and perhaps outmoded organizational schemata (Mohrman et. al., 2003, p. 321; Pritchard & Woollard, 2010, p. 11), and organizational underlying assumptions and biases that might be a filter to new external ingenuity (see e.g. Ashley & Morrison, 1997, p.48; Argyris & Schein, 1993, p. 10; Day & Schoemaker, 2006, p. 86; Leonard-Barton, 1995, pp. 159 -160; Schein, 1993, p. 87), which it must overcome to get a big picture of its future by collaborating with others to attain the *zone of proximal development*(ZPD) (see e.g.Vygotsky, 1978, pp. 85-86), or the *zone of collaborative development* (ZCD) (Balakrishnan & Claiborne, 2012, p. 235)

From the data analysis, it came to light that the college views its external environment as both unanalyzable and analyzable (see e.g. Daft & Weick, 1984, p. 287). On one hand, the college perceives its environment as unanalyzable because the data revealed it is a pacesetter in the Finnish vocational sector. This is consistent with leading change (Brown & Eisenhardt, 1988, p. 5; Spiro, 2011, p. 3; Thompson & Strickland, 2003, p. 263). On the other hand, the fact that the college seeks external collaboration to understand the big picture of its future indicates that it views its external environments as analyzable and therefore active towards it. The perception of the environment as both analyzable and unanalyzable also implies that, at least some leaders of the college do not want to remain in their comfort zones but are willing to move out of them to allow new change (see Schein 1993, p. 88), to ensure a continuous improvement in the health of the college (see e.g. McHugh & Brotherton, 2000, p. 763).

In response to research question two, at stage two of Figure 3 above, the college perceives its external environment as analyzable (see Daft & Weick, 1984, pp. 287-189) and therefore undertakes various activities in its various networks to understand better the future implications of its motives, and to discover and interpret new emerging weak signals. For example, leading and chairing networking activities position the college at the forefront where the actual work is done. Participating in its networks in these ways

among others is comparable to the observations by Weick and Sutcliffe (2007 pp. 15-74); and Day and Schoemaker (2006, p. 144) that employees at the lower levels in an organization are those at the forefront who may spot errors and who have the understanding of external changes. These activities have allowed them to be sensitive to operations; explained by HROs as being mindful of the forefront where the actual work is executed to enable the detection and an expeditious action on the actual chaotic situations prevailing in the majority of systems (Weick & Sutcliffe, 2007, pp. 12-59). It suggests that in the context of this college, it is not only the school leaders who mostly are busy with administrative work that can see most of the need for future change but rather the teachers and students who are dealing with each other on daily basis, and who are involved in various external networks that embrace other schools and organizations, and who are required to engage in on-the-job-training and on-the-job-leaning abroad respectively.

The data analysis further revealed that if the activities you perform in your networks do not help you see the big picture behind your detected errors and weak signals, or detect emerging new issues and interpret them, it might be due to an inaccurate detection of errors or misstatement of motives, or ineffective networking criteria, or unfavourable features of organizing, or the incompetence of network actors. This requires that you may have to go back to stage one in Figure 3 above to re-detect errors/weak signals and re-state your motives, and seek improvement in the networking criteria or features of organizing, which re-determine your actual activity as you return to stage two of Figure 4 above. Or it may result in establishing or joining new networks where co-actors may have the competence to help you deal with your re-stated or new motives.

Stage three of Figure 3 above requires you transfer anticipatory knowledge and/or identified new emerging issues from your networks that are important to your organization's future to your organization. This is consistent with "Preparing Issue Briefs" (Ashley & Morrsion, 1997, p.49), and also agrees with 'learning on behalf' of others, which requires that what is learnt be transferred by the actor to his/her school and be shared with the members of his/her school (Collinson & Cook, 2007, p. 221; Jackson & Temperely, 2007, pp. 48-49; Levitt & March, 1988, pp. 326-328; Simon, 1991, pp. 125 -126). However, individual inferences from what they have learnt are not enough and that is why the college performs organizational/collective interpretation (see e.g. Daft & Weick, 1984, p. 286; Dixon, 1999, p. 104) before embedding organizational

interpretation into the organizational memory for subsequent action. This interpretation is done at stage four of my model.

Research question three has been answered at both stage three and four of Figure 3 above. It has been answered by a number of things the data analysis revealed the college has learnt from its networks and has been acting upon to create its future. For example, the college was the first to introduce entrepreneurial studies into its curriculum following a detection of a display of lack of entrepreneurial skills by its students on-the-job-learning. This implies the college is the intellectual leader in entrepreneurial studies at the vocational college level (see. e.g. Brown & Eisenhardt, 1988, p. 5; Hamel & Prahalad, 1999, pp. 45-46). These studies have so far been benefiting both the college and products of the college. It is partly helping to ease off the backlog of students not employed by industry as indicated by my data, and also serving as an incubator programme for future entrepreneurs needed by Finland. This justifies that a proactive rather than a reactive approach to change brings a lot of benefits (see e.g. Ashley & Morrison, 1997, p. 50; Brown & Eisenhardt, 1988, p. 5; Hamel & Prahalad, 1999, pp. 45-46; Harper, 2000, p. 76), and this gives the college a competitive edge (see e.g. Abell, 1999, pp. 73-74; Hatch, 1997, p. 103). The benefits accruing to the college and its students from entrepreneurial studies justify the assertion by Hamel and Prahalad (1994, p. 179) that getting to the future first should not be seen in any absolute sense, but the first to get to the future to make a remarkably beneficial impact.

Although data analysis revealed the college is more oriented towards anticipating and leading change, it couldn't unfold in the past the big picture behind a weak signal about the demand for IT professionals by industry, and it also failed completely to anticipate in the past an industrial labour shortage due to its lack of 'industrial antennae' at that time. The college's inability to properly anticipate the actual demand of IT professionals, thus its failure to accurately interpret the number of them needed, and also to triangulate both the signal and its source (see e.g. Day & Schoemaker, 2006, pp. 90-91) resulted in the college recruiting IT professionals more than was actually being demanded by industry. This suggests time and other resources were wasted, and also compelled the excess of the IT professionals to become redundant. Acting on an improper interpretation or a misinterpretation of a weak signal could be catastrophic hence the essence of collective/organizational interpretation (see e.g. Daft & Weick, 1984, p. 286; Dixon, 1999, p. 104;), and proper triangulation, or disconfirmation of data, in order to reduce ambiguity, and to unveil the big picture

behind any detected error/weak signal to determine the right action on it (see e.g. Ashley & Morrison, 1997, p. 50; Day & Schoemaker, 2006, pp. 78-91; Schein, 1996, p. 29; Weick, 1995, p. 95). It is important to mention here that unlike the past where the college acted on the IT signal without conducting due diligence, it now takes it seriously to do so on any spotted emerging issues to minimize uncertainty before acting on it. This also shows that the college is an open social system that constructs data from the environment to reduce uncertainty prior to action (see e.g. Daft & Weick, 1984, p. 285).

It became imperative for the college to react to contain the industrial labour shortage by recruiting employees from China to save the industry from further crises. However, the college found the reaction very onerous and costly. According to leader G, in the absence of 'a reaction system', reaction to unexpected event strips teachers of a lot of energy and also puts them under mental stress which could lead to ineffective reaction. However, Weick and Sutcliffe (2007, p. 65), argue organizations have to manage the unexpected by reacting to contain it so as to be resilient. But the onerous and costly reaction experienced by the college confirm that anticipating change supersedes reacting to change (see e.g., Brown & Eisenhardt, 1988, p. 4; Harper, 2000, p. 76). Although the college perceives both anticipating change and reacting to change as important, it admits anticipating change is always better than reacting to change.

In response to research question four, which occurs at stages 3, 4, and 5 of Figure 3 above, data analysis uncovered emerging new signals (signals 10-16) that are not yet known to the entire college, but the informants of this study. The college has to immediately start to deal with these signals to create its future by taking a number of approaches to see the big picture behind them and act to either quell the disasters they may bring or exploit the opportunities behind them. Responses to these signals should embrace adopting the principles of anticipation and containment (see Weick & Sutcliffe, 2007, pp. 45, 65), collective interpretation (see e.g. Ashley & Morrison, 1996; Daft & Weick, 1984, 286; Dixon, 1999, p. 104), triangulating the signals and their sources, or disconfirming the signals (see Day & Schoemaker, 2006, pp. 78-91; Schein, 1996, p. 29), overcoming anxieties and resistances associated with leading and anticipating change (see e.g. Schein,1996, pp. 29-31; Schein 1993, pp. 88-89), identification of the early adopters, or the critical mass (see e.g. Oliver et al., 1985, p. 522; White, 2003, p. 13), or adopting/adapting Kotter's (2007, pp. 96-99) eight steps to transforming an organization, which are essential for effective organizational learning to occur.

The finding that the *hierarchical structures of the Finnish educational institutions receive more attention than the needs of students* is one of the emerging new signals found to be disturbing. It appears this signal is partly to blame for signals 2, 4, 6, 7, 12, and 14 as stated above (see pp. 80-86). The inadequate equipment and facilities that result in large class size for skill demonstration lessons as indicated by signal 7 is one recipe to incite anomie among students. The feeling and thinking by some teachers that the college does not have enough state-of-the-art facilities, that they have lost and continue to gradually lose some working hours, that they have little or no rights to make their own decisions nowadays as it used to be, are already an evidence of the prevalence of anomie in the college (see Durkheim, 1972, pp. 173-177; Horton, 1964, pp. 285-286). Muijs et al (2010, p. 12) see schools not living up to expectation as often displaying the symptoms of anomie indicated by Durkheim. Although I found from data analysis that teachers' and students' involvement in external networking has resulted in an appreciation of the college's facilities to be better than what colleges/schools in other countries have, the facilities must see continuous improvements in order to forestall any future outbreak of anomie. The leaders of the college and the leaders of the Finnish educational system should devote more attention to the needs of students and teachers rather than the hierarchical structures in these systems as indicated by signal 7. This is because all schools exist because of students, and not just for the sake of having students, but to give proper education and training to students in order for them to become useful to society tomorrow.

The feeling and thinking by some teachers that they have nowadays little or no rights to make their own decisions compared to how it used to be somehow counteracts the claim by leader A that the college is a horizontal organization, and therefore, allows flexibility, although this leader also admitted that allowing flexibility in the college is an uphill task. This signal also suggests the college is gradually violating the decentralization of the Finnish educational system that came into being in the early 1990s designed among other things to give autonomy to teachers (Rinne, Kivirauma, & Simola, 2002, pp. 652-653). This signal correlates to *signa*l 12: *the inside-out rather than the outside-in approach to work by some teachers*, and *signal* 13: *some teachers just want to do the minimum amount of work required of them.* These agree with the assertion by Bolman and Deal (2003, p. 71) that lack of autonomy for employees can incite them to cripple the system. If this lack of motivation for teachers to seek outside ingenuity to improve their work is not curbed, it can gradually worsen to affect the

health of the college (see e.g. Senge, 1990, p. 451; McHugh & Brotherton, 2000, p. 763). Leader G suggested that their college must first create a better motivational working environment, and then the desire for teachers to develop themselves professionally for a maximum work output will follow.

Signal 14: *the Chinese are learning very fast and now giving employee skill and competence training to their own employees*, implies that the college has been exporting employee skill and competence training to Chinese companies but China has been learning very fast to the extent that it is now able to give this training to its own employees. This threatens the sustainability of this business opportunity for the college. However, what the college could do is to employ an offensive scenario. According to Harper (2000, p. 76), offensive scenarios may place a spotlight on a market, a product, a service or an opportunity that is arising. That is, what improvements can be done to the current employee skill and competence training that China cannot yet do so that it will compel China to continue to rely on the college?

How the college interprets its gathered data and what goes into organizational learning appear to differ in some respects. Contrary to the notion that strategic-level executives are responsible for organizational construction of meaning (Daft & Weick, 1984, p. 285), the data analysis showed that organizational interpretation of any data is the preserve of people whose expertise is appropriate. This is consistent with the assertions of Ashley and Morisson (1997, p. 50), Kotter and Schlesinger (2008, p. 133), and what Weick and Sutcliffe (2007, pp. 15-16) call *deference to expertise*. Besides, leader G argued that it is not enough to rely on experts to design and implement any change initiative but the entire change process must be based on whose idea is the best as opposed to a general consensus agreed upon by the rest of my informants.

Change implementation takes place at stage four of Figure 3 above. Data analysis indicated that in this college change is effected only after members are certain about the organizational interpretation of data. That is, only after a new construct is registered into the collective mental frame of the organization (see e.g. Daft & Weick, 1984, p. 286). Mohrman et al. (2003, p. 313) found that shared new schemata is necessary for the implementation of a new change otherwise sharing of information about the change will be hampered and people involved in the change process will fall back on their preexisting schemata to execute their tasks. It is not a problem in this college to mobilize resources to implement change (i.e. preparation to act on interpretation of information) once it becomes evidently clear that a particular future

change is unavoidable. This agrees with the destabilization of the organization (Schein, 1993, p. 88). However, authorities leading the change must have the trust of their people that the change is going to bring them nothing but an improvement in their welfare. This means creating psychological safety (see e.g. Kotter & Schlesinger, 2008, p. 133; Schein, 1993, p. 89). Commitment to change implementation is not a problem in this college, once all the necessary resources and capabilities can be mobilized.

It is also important to have a good open climate as an incentive for both external networked learning and organizational learning to occur. It is crucial that authorities leading the change are consistent, and know when to come on stage. Thus both initiators and implementers of change need some degree of autonomy but leaders must exercise vigilance through dialogue rather than giving of commands to ensure *unity of direction* (see Fayol, 1916, p. 51). Data analysis indicated that the right degree of autonomy is necessary to ensure successful implementation of change. Bolman and Deal (2003, p. 71) noted that whereas a structure that is excessively loose may lead people astray with little idea of the tasks of others, a too restrictive structure quells flexibility and can give people the courage to sabotage the system. Adequate flexibility is allowed in this college in any change process to permit pragmatism when and if necessary. Mohrman et al. (2003, p. 311) admit flexibility is needed for schemata adjustment in a manner that prevents viewing them as endangering.

The outcome of evaluation of implemented change that takes place at stage five of Figure 4 above becomes a new round of motive that drives the college back to its networks to share with members. According to leader F, even if the college achieves success, it is not complacent with it but is preoccupied with it as to whether once successful means forever successful. Executives are advised to be engrossed with success much as with failure to allow for the early detection of unexpected events for timely action (see e.g. Starbuck & Milliken, 1988, pp. 329-330; Weick & Sutcliffe, 2007, pp. 52-53). It is good this college is aware that failure or success may present opportunity for the detection of emerging new signals. This is consistent with Daft and Weick's (1984, p. 286) claim that an evaluative information of organizational action may give new shared understanding for coalition members for a new round of action. Thus the three main stages of the anticipatory management process in this college are linked through feedback loops (see e.g. Daft & Weick, 1984, p. 286). If a particular change has not been effective, the college and its network co-actors engage in *collaborative retrospective learning* that takes into account new signals or blind spots

arising from the failure to discover what went wrong, or unveil whether single-loop learning has not been effective, and whether they must give chance to double-loop learning to contain the unexpected and to see whether new emerging issues can be detected (see e.g Argyris, 1993, p. 9).

This *collaborative retrospective learning* resembles what G. Bateson (1972), in Haho (2004, p. 240) termed 'deutero-learning', i.e. 'second order learning'. This learning according to Argyris and Schön (1978, p. 27), as stated in Haho (2004, p. 240), requires organizational members to reflect upon and probe into prior incidents of organizational learning, or the disregard to learn so as to lay bare what actions they took that promoted or stifled learning, which paves way for coming up with new ways for learning, and for them to produce these methods and assess them.

Besides the model of the management process of anticipatory external networked learning, this study also contributes new knowledge to the growing bodies of knowledge about what should be considered for the recruitment of future principals for Finnish vocational colleges and the benefits that accrue from external networked learning. New terms/phrases coined by this study are *anticipatory social capital*, *anticipatory networked learning*, and the *management process of anticipatory external networked learning*. All the informants mentioned that the college cannot survive without relying on external networked learning as a means to acquire renewing information and resources to quell their entropic process (see Katz & Kahn, 1966, p. 485, Pfeffer & Salancik, 1978, p. 521; Scott, 1987, p. 23), and that the college's external networked learning activities contribute immensely to organizational learning (see e.g. Jackson & Temperley, 2007, p. 45; Mohrman et al., 2003, p. 312) and control of organizational anomie (see e.g. Muijs et al., 2010, p.12). This suggests that organizations, groups, or individuals that are still operating on the closed system model can make little or no progress (see e.g. Scott, 1997, pp. 23, 82).

The research findings are important in at least three ways: theoretically, heuristically and practically (see Tracy 201, p. 846). For example, theoretically, my study has come up with a 'five-stage flexible iterative model' designed for *the management process of anticipatory networked learning*. Heuristically, the data analysis unfolded weak signals that matter for the future of the college, and therefore, need further investigation and action. Practically, my data analysis uncovered requirements for future principals/leaders of the college, general benefits accrued to the college from

external networked learning, and how anticipating and preparing for change compares with reacting to change.

6.2 Review of the quality of study

One aspect of realizing a high quality qualitative research is to determine the phenomenon to study through an analysis of data during the data collection (see e.g. Miles & Huberman, 1994, p. 49; Tracy, 2010, pp. 839-848). Finding my case (see e.g. Ragin, 1992, p. 220) as an evidence of a research gap and confirmed by the literature review made it worthy of investigation, and has produced findings that could make members of the college think in new ways (see Tracy, 2010, p. 840). I will show where and how some of the other dimensions of the criteria of validity and reliability apply in this study.

There seems to be no unified definition of validity in qualitative research in existing literature but rather the use of several criteria with both differences and similarities (see e.g.; Creswell, 2007, pp. 202-220; Creswell & Miller, pp. 126-129; 2000; Healy & Perry, 2000, pp. 120-125 Patton, 2002, pp. 503-560; Schwandt, 2007; pp. 310-311; Tracy, 2010, pp. 840-848: Wittermore, Chase, & Mandle, 2001, pp. 528-532). Despite this absence of a common definition, the validity of qualitative inquiry is defined as the 'truth' and the 'certainty' in the discoveries made (Schwandt, 2007, pp. 310-311). The 'truth' refers to the discoveries made actually standing for the subject matter they pertain to, and 'certainty' stands for the support of the discoveries by facts that transcend any doubt (ibid, p. 311).

 Credibility as an element of validity is concerned with whether the meaning assigned to the results of the study is a true representation of the views of the participants (Wittermore et al., 2001, p. 534), and whether readers should repose confidence in them so as to inform their decision making (Tracy, 2010, p. 843). One of Patton's (2002, pp. 552-553) three dimensions of the credibility of a qualitative study I satisfied was that, although I was a novice researcher, I received the necessary education and training in qualitative research methodology that equipped me with the necessary research tools and the confidence to conduct this study.

Even though member checking does not result in the optimal evaluation of what a valid research report is (Sandelowski, 2002, p. 208), I also addressed credibility by

sending back the transcribed data, findings, and interpretations to all my interviewees to cross-check and give comments as to whether they reflect exactly their views or not, and whether they needed to make any corrections (see Creswell & Miller 2000, p. 127; Patton, 2002, p. 560; Stake, 1995, p. 4, Tracy, 2010, p. 844). If informants can't accept ownership of the account of the description and analysis of the information they provided, it leaves room to doubt the trustworthiness of the research (Patton, 2002, p. 560). It was, however, important for me to ensure that my informants did not see reviewing my report as an opportunity to dictate what the report must contain but to check for issues that expose them or correct anything that I have wrongly reported (see Seidman, 2006, pp. 98-99). The following were two examples of comments from member-checking:

> Thank you for letting me see your text! You've done a good job - congratulations! I'm happy with it for my part - Leader D.

> Yes, from my part you can go on with the study. I quickly looked at the papers of yours. Interesting study. - Leader G

In my attempt to check authenticity, I ensured my Finnish participants wholly understood my interview questions by using simple vocabulary familiar to them as recommended by my lecturer (who doubles as a Finnish school principal) I used to pilot test my research instruments. This enabled them to give answers that reflect their experiences and perceptions. My interviews were pilot-tested in order to check whether my research and interview questions were appropriate to elicit the right information. I presented myself well to my interviewees (see Patton, 2002, p. 552) through a covering letter, building rapport with my interviewees, dressing well for all my interviews, and conducting the interviews in a tranquil informal environment. Moreover, although I was a novice researcher, I behaved as much as possible as a professional during all my interviews to avoid the risk of being treated with contempt. This influenced my informants to give me rich and authentic information.

A detailed account of my data rather than some extracts was another way I checked the credibility of the study (see e.g., Creswell & Miller, 2000, pp. 128-129; Tracy2010, p. 843; Patton, 2002, p. 503). Giving a detailed description of my data agreed with the stance of Tracy (2010, p. 843) that the data must [show] rather than [tell] readers what to think. The breakdown of qualitative material is embedded in giving a 'fleshy' account of the phenomenon studied, and this dictates the inclusion of

an adequate account and excerpts in the qualitative report to enable the readers to place themselves into the 'shoes' of the informants (Patton, 2002, p. 503). This is necessary because scanty information detaches readers from the context or meaning (ibid, p. 503).

The importance of triangulation is stressed by the argument that research findings that are based on one way of data collection rather than different means that produce convergent findings may contain some shortcomings (see e.g. Creswell & Miller, 2000, p. 127; Patton, 2002, p. 556; Tracy, 2010, p. 843). I applied two out of the four methods of triangulation put forth by Patton (2002, p. 556). I used triangulation of sources, and theory/perspective triangulation. Triangulating the sources of my data was addressed by sufficient consistency in the findings from interviewing seven leaders and a focus group of five teachers of the case college. Using adequate time to follow the laid down steps of conducting interview to interview with all these informants to collect the needed data was an attempt to realize what Tracy (2010, p. 841) described as the 'rich rigor' of a study. Patton (2002, p. 556) asserts that the primary idea of theory triangulation is to gain insight into how varying suppositions and postulations influence results and meaning-construction. In practice, Patton is of the view that theory triangulation should involve an analysis of the data that embodies the concerns of the different actors. Although my case college may embrace many actors, my study generally focused on the future needs of students, teachers, leaders, and the college's main external environment (i.e. industry). Mentioning in this report the consistencies and inconsistencies between my findings and existing theories is another way to demonstrate theoretical triangulation.

Reviewing this study by my peers, supervisors, and experts (in networking and anticipatory management), and proof-reading by an English language expert also contributed to the credibility of this study. Creswell and Miller (2000, p. 129) describe the peer review or debriefing as a critique of the data and the trajectory of the research by someone who is conversant with the phenomenon being investigated.

This study was conducted with ethical sensitivity. According to Bogdan and Biklen (2007, p. 48): "…nothing is more indicting to a professional than to be judged with unethical practices, and …while the word conjures up images of a supreme authority and absolutes, ethics in research are the principles of right and wrong that a particular group accepts at a particular time". This study met the *procedural*, *situational*, and *exiting* dimensions of ethics (see Tracy, 2010, p. 847). Prior to the commencement of my research, in connection with *procedural ethics*, I had to seek the

permission of my case college and assure all my informants through a covering letter (see appendix 8) that the research was only meant for meeting my master's study requirements. I also assured them of treating them and their college as anonymous informants. This aspect of ethics was also taken care of by member checking. Regarding *situational* ethics, I had to exclude some of my findings from my report because I realized that they could expose some of my informants and could even be disturbing and damaging to their personalities and their jobs. The aspect of *exiting* ethics requires that the research report does not lead to developments that are biased and uncalled-for. In this sense, I tried as much as possible to discuss my findings in an unequivocal and unambiguous manner so as to reduce the probabilities of any controversies.

I attained the stated goal set for my study, which is manifested by a meaningful dialogue between the introduction, literature review, research questions, data findings, discussions, implications of the study, and conclusion (see e.g. Tracy, 2010, p. 848). Now I will dilate a little more on reliability.

Achieving reliability of a study is not about how the findings of one case agree with the findings of other cases but to ensure that there is consistency between what is collected as data and what exactly transpires in the case being investigated (Bogdan & Bilken, 2007, p. 40). Yin (2003, p. 37) argues that the purpose of reliability of one's study is for him/her to be certain that if another inquirer repeats his/her case study, s/he will arrive at the same outcome. He lays emphasis on re-doing the case study and not a reproduction of the outcome of one case by investigating another case study. I tried to meet this aspect of reliability by conducting a thorough and appropriate literature review from which emerged most of my research and interview questions. To allow the repetition of my study, my research instrument can be found in appendices 6 and 7. The other thing I did was a comprehensive description of how I conducted my fieldwork, analysed my data and presented my report. I also demonstrated the reliability of my study by including quotations from interview participants. This was consistent with methodological trustworthiness of a study, which Healy and Perry (2000, p. 123) explained as the degree to which the report can be verified by creating a data bank of the case study and by the use of excerpts in the authored account.

6.3 Final remarks

This study investigated whether a Finnish vocational educational organization has been exhibiting behaviours of anticipating and leading change, or reacting to change. The study looked at anticipating change as encompassing preliminary and main anticipatory management processes. In connection with the open systems and the systems thinking theories, this study relied on external networked learning as means for environmental scanning by the college to gather information about future change. The study translated dependence on learning from external networks to anticipate change into a five-stage flexible iterative model facilitated by organizational climate conducive to change and preparing to act on interpretation of data to produce holistic learning as the outcome of the management process of anticipatory external networked learning. Findings from the study showed evidence of the college lacking industrial antennae in the past which compelled it to become a victim of change. Despite this fact, the study also discovered that the college now views its external environment as both analyzable and unanalyzable (see Daft & Weick, 1984, p. 287). This attests to the fact that the college both anticipates and leads change.

Anticipating and leading change by this college was demonstrated by the college's collaboration with its domestic, national, and international environments to identify and deal with weak signals that matter to its future. This agreed with the open systems theory which requires organizations to continuously seek renewing information and resources from their environments so as to halt their entropic process (see Katz & Kahn, 1966; p. 485; Scott, 1997, p. 23; Shafritz et al., 2005, p. 478). As stated by Hendriks (1999, p. 99), an increase in the knowledge base of an organization is the result of knowledge sharing. By virtue of its engagement with its external environment, the college has been acquiring knowledge that it has been translating into organizational learning to continuously brighten its future. The study also found new information the college is yet to act upon, but must consider acting on it immediately in order to forestall any catastrophe from befalling it or missing out opportunities in both the near and distant future. Senge (1990, p. 455) warns of how our inattention to small things can develop into either huge benefits or disasters.

For the college to avoid becoming a victim of change in the future, it must continuously be connected with its external environment through participating in networked learning activities to construct the anticipatory social capital necessary to

continuously anticipate and lead change. Data analysis showed that it is a policy in Finland for professional ties to be automatically handed down in the event of both avoidable and unavoidable employee turnover. But this study found this not to be the case with personal ties. Thus personal networks which also constitute a source of anticipatory social capital needed by the college to anticipate and lead change are lost during employee turnover. The college could lessen the loss of these personal ties by negotiating with and persuading long-serving employees, and especially, those who are about to retire to take new employees through some sort of personal networks succession management, or apprenticeship by introducing to them their personal ties before they leave the college, or before any unavoidable employee turnover occurs. Pritchard and Woollard, (2010, p. 56) express the notion that *cognitive apprenticeship* should be given to novice learners or newcomers assigned to execute a new task. Thus network ties that give access to intellectual capital (e.g. Nahapiet & Ghoshal, 1998, pp. 251-254) are particularly crucial for new employees upon assumption of a new post.

6.4   Limitation of study

A number of important limitations need to be considered. This study was a single case study and therefore limited to within-case analysis. This means the findings cannot be generalized to other vocational educational organizations. However, as is the requirement of the validity of any single study, this study could be repeated in another vocational educational organization so that the findings can be compared to the findings of this study, or a future study to investigate the same phenomenon could focus on multiple case studies to allow cross-case analysis and generalizations of findings to be made.

Another important limitation of this study was that it relied mainly on data generated from external networked learning. Future studies could delve into how the college uses other anticipatory tools to anticipate and lead change.

Due to time constraints and language problems, the study could not access documents of the college as another source of data collection for triangulation so as to check the consistency or inconsistency of their contents with the findings from the interview data for this study.

7 RECOMMENDATIONS

The study only focused on how the college as a whole anticipates and leads change in general in the interest of students, teachers, and leaders of the college. Future studies into the same phenomenon could focus on these actors separately.

Since this study is qualitative, a quantitative study could be conducted in the future to test the theory of the management process of anticipatory external networked learning (see table 2 and figure 3) propounded by this study as well as to confirm or disconfirm other discoveries made by this study.

More particularly, why hierarchical structures in the Finnish educational system receive more attention than the needs of students and why some teachers think and feel they are losing their autonomy bestowed upon them by the decentralization of the Finnish education system are worthy of thorough investigation for solution.

Other new emerging weak signals discovered by this study are equally important and should be considered by the college for action in order to ward off the harrowing situations that might be behind them and/or exploit the opportunities behind them.

The college needs to conduct a special study into how it can use offensive scenarios to ensure that China continues to rely on it for its employee skill and competence training or consider market diversification.

The discovery by this study of seven key elements as stated above (see pp. 103-104) concerning the requirements of future principals/leaders for the vocational educational organization are to be taken into consideration when recruiting principals/leaders for the college.

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APPENDICES

APPENDIX 1: PRE-INVOLVEMENT STAGE

Familiarity with organizational culture & critical people in the Finnish educational

Negotiating and arranging on-the-job-learning for students and professional development for teachers

Someone/organization approaching you or your organization based upon his/her motives or on behalf of his/her organisation

Approaching someone or an organization based upon your motives/needs or on behalf of your organisation

Premium on Finnish vocational education

Being a pacesetter

Organising & executing joint projects

Relative small size of Finnish population

External antennae for business opportunity recognition and exploitation

Motives to initiate external networks

Initiation of external networks

Management Process of Anticipatory External Networked Learning

Stage One: Pre-involvement in external networks

Risk taking propensity

Win-win outcome

Connection points or interests

Safety

Experience/reliability

Flexibility for pragmatism

Open-mindedness and enthusiastic attitude

Age range of students

Criteria for successful external networking

Trustworthiness

Long span planning ability

Current & future goals/activities

People giving face to networks & their approachability and networking abilities

Certificate for creativity & international cooperation

Popularity –knowing organization(s)/person(s) beforehand

APPENDIX 2: ACTUAL INVOLVEMENT STAGE

Learning to understand, appreciate, value and tolerate foreign cultures

Provision of competence-based education

Collaborative learning

Negotiating & arranging on-the-job-learning for students

Groups & teams for joint projects

Determination of the college's international standing

e.g. Network manager

Project-based pedagogy

Playing active roles or undertaking network activities

Pigeon's role

Management Process of Anticipatory External Networked Learning

Benchmarking & appreciative inquiry

1. Resources needed for intelligence gathering

2. Factors facilitating intelligence gathering

Necessary enabling environment to facilitate intelligence gathering

Stage Two: Actual involvement strage

3. Methods for intelligence gathering

16. College losses external antennae through both avoidable & unavoidable employee turnover

15. The Chinese are learning very fast & now giving employee skills & competence training to their one employees

9. Failure to anticipate shortage of labour in industry

7. Some students are passive during skill demonstration classes

4. Acute shortage of nurses in 2013

11. College graduates prefer to live and work in towns & cities t rural areas

10. Hierarchical educational structure receiving more attention than students

3. Some elderly staff members have fear for foreign students & other foreigners

Intelligence gatherings from networks

2. Limited job opportunities, working life challenges

8. IT knowledge being required of job seekers

6. Backlog of college graduates not employed by industry

12. Inside-out approach towards work

14. Majority of teachers want to do minimum amount of work

5. Some difficulties working in an international environment

13. Most nursing students can't recognize some outdated medicine

1. Lack of entrepreneurial skills

APPENDIX 3: TRANSFERABILITY STAGE, AND ORGANIZATIONAL INTERPRETATION, PRIORITIZATION AND ACTION STAGE

Confirmation or redefinition which unit or people in the college will be affected by intelligence gathering?

An advanced collective interpretation by a team of experts and the unit to be affected by detected weak signal

A team of experts and unit to affected conduct dig into intelligence gatherings and finally prioritize them

Report on complete and certified interpretation of intelligence gatherings and their pros and cons presented for action

Second interpretation and prioritization of intelligence gathering(s)

Due diligence to adequately inform a third & final round of interpretation and action on intelligence gathering(s)

Explaining and justifying intelligence gathered

Stage 4: Organisational interpretation, prioritization and action

Audience generated content on the interpretation and prioritization of intelligence gathered

Presentation of intelligence gathering to the organisation

Management Process of Anticipatory External Networked Learning

Stage 3: Post-involvement in networks or transferability of intelligence gathered

First interpretation of intelligence gathered by college representative(s) in networks

A threat

First prioritization of intelligence gathered by college representative(s) in networks

An opportunity

Can't interpret

Prioritization based on order of importance

True or false intelligence

Determining ownership of intelligence gathered

Prioritization based on resource availability & expertise needed to act

Prioritization based on the urgency for action

APPENDIX 4: CONSTRUCTIVE FEEDBACK STAGE

Sharing the details of your success with your networks that matter

Whether objectives are achieved or not and why

Management Process of Anticipatory External Networked Learning

Sharing success or failure, and preoccupation with the success or failure

Evaluation of implemented intelligence gathering

Stage 5: Constructive feedback stage

Sharing the details of failure to your networks

Any unexpected happenings or emerging new issues

Collaborative learning to address failure & and anticipatory learning to improve success & leverage it to others

Co-constructing solution to failure for a better future for others

Discussing how to sustain success, increase it and leverage it to others

APPENDIX 5: CREATION OF ENABLING ORGANISATIONAL CLIMATE AND PREPARATION STAGES

Change must not be an imposition

Equal opportunity to everyone to contribute ideas to change

Leaders make adequate information available

Open good climate to implement intelligence gathering

Room to make mistakes and pardon mistakes

Incentive for teachers to be involved in external networks to acquire new knowledge

Bottom-up idea of change

Open good climate for intelligence gathering

Allocation of power to teachers over some areas in the college to control

Creation of necessary organizational climate for successful change

Management Process of Anticipatory External Networked Learning

Securing all necessary infrastructure

Mobilization of non-intellectual resources

Preparation to implement intelligence gathering

Sourcing adequate funding

Exhaustive use of all communication channels

Mass and sufficient communication of change idea

Trust building between leaders and those to be affected by change

Whole college must understand why change is needed

Organising intellectual resources

Trust that leaders are making the right decisions

Education and training to upgrade knowledge and skills

Identifying the right people and putting them in the right buses

Trust that the impact of change will be an improvement in lives but not catastrophic

APPENDIX 6: RESEARCH INSTRUMENT FOR INDIVIDUAL INTERVIEWS

1. Can you share with me how you became a principal/leader of this college?

Follow up question: What must one do in order to become a principal/leader of this college in the future?

2. What kinds of local and/or international networks is your college involved in?

Follow up questions: How do you relate to them? What do you do in these networks?

3. What criteria do you use in selecting people and/or organizations who seek to network with your college or whom you seek to network with?

4. How do these networks help your college in determining today a need for a future change?

5. Can you share with me about what you do as a college in your various networks and how it helps you toward a future change?

6. What do you learn in your various networks about a future change and how do you learn them?

Follow up question: What factors make learning for a future change in your networks possible?

7. Can you share with me your opinions on whether we should look forward to change or react to change when the need arises? **Follow up question**: Which is better and why?

8. How do you ensure that an intended future change produces the desired results?

9. How does the climate in your college promote or impede looking forward to future change and why?

10. What resources help you identify the need for a future change?

11. What resources do you use in preparing for an intended future change and implementing it?

12. How does looking forward to change affect skill requirements, new roles, and power relations in your college?

13. What have you and your college already gained from your external networks and what are the prospects?

APPENDIX 7: RESEARCH INSTRUMENT FOR FOCUS GROUP

1. What criteria do you use in selecting people and/or organizations who seek to network with your college or whom you seek to network with?

2. What do you and your networks learn towards a future change?

3. How do you look forward to a future change?

4. How is your participation in networked learning used to foresee the need for future change and prepare for it?

5. How do you validate what you learn from your networks in order to ensure that an intended future change produces the desired results?

6. What have you and your college already gained from your external networks and what are the prospects?

APPENDIX 8: RESEARCH PERMIT REQUEST

01.12 .2009

Dear Sir/Madam,

RESEARCH PERMIT REQUEST

I am a student in the Master's Degree Programme in Educational Leadership, where I am writing my Master's thesis on the topic "Network Learning in Anticipating Change and Preparing for the Future: The Case of a Finnish Vocational College".

The purpose of the study is to explore the proactive and transformative leadership behaviour in Finnish Vocational College in collaborating with her stakeholders in co-constructing knowledge (producing creative synergy) for change and how it has been benefiting from in terms of looking forward to change in the future and preparing and positioning itself towards it.

I am requesting for your kind permission to collect the research data in your institution at the time of your convenience. If possible, I suggest that I come to collect this data between the third and fourth week of January, 2010. The research data to be collected would consist of interview data, the developmental history of your college; minutes taken at meetings that focused on ideas for change; implementing it and evaluating it; published and unpublished data, and so forth. The data is collected and used for research purposes only and will be dealt with anonymously.

Please contact director Jukka Alava of the Institute of Educational Leadership in the University of Jyväskylä (tel. 358-14-260 1897/358-40-7380134, email aIavaedu.jyu.fi), if in need for additional information.

Ossom Emmanuel Nartey
University of Jyväskylä
Taittoniekantie 9AS C5 18, 40740, Jyväaskylä
Mobile: 044 276 7762, Email: emossom@jyu.fi

APPENDIX 9: LETTER OF ACKNOWLEDGEMENT

01.12 .2009

Ref.

LETTER OF ACKNOWLEDGEMENT

This is to certify that Mr. Ossom, Emmanuel Nartey is a full time student in our Master's Degree Programme of Educational Leadership as of autumn 2008 and has completed all the studies as required, cumulatively circa 60 ECTS by the end of spring term 2009.

Mr. Ossom, Emmanuel Nartey is planning to write his Master's thesis on the topic, "Network Learning in Anticipating Change and Preparing for the Future: The Case of a Finnish Vocational College", for which purpose he 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.

Ahmed A1-Sad
Lecturer and Supervisor
Tel. 358-14-260 1686
Email ahmecl.ai-sad@jvu.fi
http:/ /www.jyu.i/eclu/mpei