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Loose and Tight Coupling in Educational Organizations – An Integrative Literature Review

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Abstract

Main purpose of this paper is to review and synthesize the attributes of loose and tight coupling in educational organizations. In addition, it is aimed to determine whether this phenomenon has value and strategies to offer for the current educational administration and research. Integrative literature review, and content analysis, assisted by Atlas.ti software, were used as the methods of this paper. Review data included 32 articles from peer reviewed journals.

In the findings, conceptual framework of Continuum of organizational couplings in educational organizations was generated. Elements of the framework include the features of coupling concepts within the continuum, components of couplings, contributory types of organizational couplings, and the elements of leadership and change process with emerging strategies, as well as the element of cultural context. In this paper, elements of continuum of couplings and leadership will be emphasized. Findings of this paper have practical implications for the management and leadership in educational organizations, and for the researchers in the field for future research purposes. In addition, findings have social implications for both teaching staff and administration in educational organizations by highlighting the attributes of loose and tight coupling, and their connections with leadership, change process and cultural context.

The paper presents a distinctive synopsis of the educational administration literature, in the context of loose and tight coupling, with the time span of four decades.

Keywords – loose coupling, tight coupling, organizational couplings, educational organizations, leadership, change process

Paper type – Literature review

Loose coupling, with its counterpart tight coupling, has been a topic of academic debate for four decades. Until 1960s and 70s, the prevailing image was that elements in organizations are coupled through dense, tight linkages. In 1976, K.E. Weick proposed that organizational elements are often tied together loosely and frequently, and used educational organizations as a case in point. Before Weick, in 1965 Bidwell had suggested that school systems tend to exhibit a 'looseness of articulation among the subunits', and 'loose coupling' as a phrase had appeared in the literature in 1973 by Glassman, and in 1975 by March and Olsen (Weick, 1976, p. 3).

In the literature, terms loose and tight coupling usually appear together, in a relative sense (Pang, 2010). Loose coupling concept highlights the potentiality that organizations are held together by

shared beliefs, norms and institutionalized expectations (Meyer, 2002b). Tight coupling, on the contrary, refers to standardization, strong interdependence and centralized authority in organizations (Burke, 2014; Weick, 1976). Coupling terms have, however, been criticized for their ambiguity (e.g. Firestone, 1985; Meyer, 2002b; Tyler, 1987; Willower, 1981; Yair, 1997) and varying definitions (Pang, 2003).

At the beginning of the new millennia, Rowan (2002) argued that education systems seem to have become far more bureaucratized and rationalized around the world than during the emergence of loose coupling concept, and a decade later, Dimmock and Tan (2013, p. 323) stated that educational organizations have evolved into complex systems "that often defy simple characterization as either tightly or loosely coupled" (see also Goldspink, 2007; Orton and Weick, 1990; Rowan, 2002). Additionally, according to scholars (e.g. Hökkä and Vähäsantanen, 2014; Shen *et al.*, 2016; Vuori, 2015), there is current evidence that educational organizations are facing increasing demands for accountability, and hence, for tightening the loose coupling in order to meet challenges of the current era. However, for example Hallett (2010) has illustrated that environmentally defined regimes for accountability, leading to recoupling of loosely coupled practices, have created perturbation in educational organization. Hence, it seems unclear whether endeavouring loose, or tight coupling aspects, serves more beneficial goal for educational administration.

To date, no integrative review has been done about loose and tight coupling in educational organizations. Thus, the main purpose of this paper is to synthesise the attributes of loose and tight coupling phenomenon in educational organizations. In addition, it is aimed to determine whether this phenomenon has value and strategies to offer for the current educational administration and research. The paper addresses following research questions:

1) How are the concepts of loose coupling and tight coupling attributed in the educational administration literature?
2) What does literature in this context suggest about educational administration strategies and effects, and what potential suggestions there are for conducting research?
3) In what ways are coupling concepts connected to other organizational phenomena in educational context?

In the findings, new conceptual framework, in this context, will be presented. In this paper, framework elements of continuum of couplings and leadership will be emphasized.

Background

The contradictory nature of coupling concepts is prominent. Some researchers have regarded loose coupling as a natural characteristic which should be taken advance of (e.g. Goldspink, 2007), while other researchers (e.g. de Lima, 2007; Morley and Rassool, 2000) have regarded loose coupling as a problem to be solved (see also Shen *et al.*, 2016; Weick, 1976). Loose coupling, with several 'relaxed' meanings, has been seen as a difficult concept, and one obstacle for operationalizing loose coupling "is the lack of agreement among those who write about it" (Firestone, 1985, p. 7; see also Willower, 1981). Moreover, already Weick (1976, p. 15) has stated that under certain conditions "the same components might be at one moment tightly coupled and at the next moment loosely coupled".

Organizational couplings are connected to the management of organizational change and improvement, and here the contradictory between loose and tight coupling is distinguishable. Tight coupling operates in educational systems "through formalization along with reliance on rules and procedures to direct the behaviour of teachers and pupils" (Cheng, 2009, p. 67), and it is stated that tightly coupled organizations are easier to control and change from the top (Hargreaves, 2011; see also e.g. Firestone, 1985; Hökkä and Vähäsantanen, 2014). In the case of loose coupling, changes in school structure have limited impact on classroom activities (Gamoran, 2008), and in overall,

resistance to change is a prominent characteristic of loosely coupled organizations (e.g. Hargreaves, 2011; Horne, 1992; Meyer, 2002a; Pajak and Green, 2003; Weick, 1976).

In educational organizations, teaching staff has traditionally had lot of influence to the content of their work and to the pedagogy. Their work has not been strongly administrated, and hence, they have been able to full fill their professional goals, and they have had possibilities for decision making. (Hargreaves, 2000; Meyer, 2002a; Vähäsantanen *et. al.*, 2012.) Prominent change in the educational organizations indicate the shift from loose coupling towards tight, more managerialistic coupling. In tightly coupled educational organizations, work of teaching staff is controlled by administrative orders. This diminishes teaching staff's possibilities to influence the content of their work, and to negotiate their professional goals. (Meyer, 2002a; Vähäsantanen *et. al.*, 2012.)

However, according to Dimmock and Tan (2013), new types of school, purposes of schooling and more professionalized body of teachers are emerging. There are concerns of connections between educational organizations and teachers work with the emphasis on teachers' sense of professional agency, referring to teacher's abilities to negotiate the contents and conditions of their work (Hökkä and Vähäsantanen, 2014). Hence, as stated by literature, teachers' agency should be placed over bureaucratic and market-oriented thinking. (Hargreaves and Shirley, 2009; Hökkä and Vähäsantanen, 2014.)

In 1985, Murphy, Hallinger and Mesa described loosely coupled schools as average in nature – as compared to tightly coupled, effective schools. If coupling metaphor is interpreted in a simplistic, dichotomous terms, system elements are seen as either coupled or not, and the whole system is seen as loosely or tightly coupled (Rowan, 2002). However, the couplings consist rational and emotional, formal and informal interactions, as in a case of simultaneous coupling (Goldspink, 2007), and Peters and Waterman (1982), Sergiovanni (1984) and Pang (2000, 2003) have found simultaneous loose and tight configurations in excellent corporations and educational organizations. According to Sergiovanni (1984, p. 13), simultaneous loose and tight structures are associated with "motivation, commitment, enthusiasm and loyalty" to educational organizations. Peters and Waterman (1982) state that excellence, created by simultaneous coupling, comes as a result of experimentation, innovation and employee autonomy connected to strongly held set of shared values. In simultaneous loose and tight coupling, tight properties center on rigidly controlled core values, and loose properties center on autonomy and innovation (Pang, 2000, 2003; Peters and Waterman, 1982). Thus, the benefit of hybrid organizations, and simultaneous coupling, is that organizations may capture the advantages of centralization and coordination while endeavouring to harness the advantages of decentralized structures (Meyer, 2002a).

Methodology

Integrative literature review was used as the methodological approach of this paper. Integrative literature review allows the "simultaneous inclusion of experimental and non-experimental research in order to more fully understand a phenomenon in concern" (Whittemore and Knafl, 2005, p. 547). The current topic can be seen to benefit of review and potential reconceptualization of the expanding and diversified knowledge base, as it continues to develop after 40 years of existence and continuing debate (see Torraco, 2005).

Whittemore and Knafl (2005) have distinguished five stages - problem identification, literature search, data evaluation, data analysis and presentation - for integrative literature review. These stages will be presented in the following sections.

Problem identification stage

Whittemore and Knafl (2005) pose that clear problem identification and review purpose are essential for providing focus and boundaries for the integrative review process. The variables of interest and the appropriate sampling frame need to be determined. In the current review, the variables of interest were loose coupling, tight coupling, educational organizations and administration in the context of loose and tight coupling. The sampling frame consisted of both empirical and theoretical articles.

Literature search stage

Any type of review demands well-defined search strategies to enhance the rigour. Recommended search approaches include searching from computerized databases, ancestry searching, journal hand searching, networking and searching research registers. In general, a comprehensive search for an integrative review includes at least two to three strategies. (Conn *et. al.*, 2003; Whittemore and Knafl, 2005.)

Data search was done in three stages during autumn 2016. Search process started from four databases, with following terms: *tight and loose coupling* and *educational organizations*, and with tag in all fields. Inclusion criteria were: only articles from peer reviewed journals were included, articles should give insight to either or both of the concepts of tight and loose coupling in educational organizations and were to be published in English or Finnish. To gain comprehensive understanding of the concepts, search years were not limited.

From *EBSCOhost*, search resulted with three hits, and all three articles were included to the literature review. From *Web of sciences*, search gave three hits, and two new articles were included. Search from *ERIC* gave four hits, and two new articles were included. From *Scopus*, search resulted with four articles which all were already included. Search from databases resulted in total with seven articles. The reasons for excluding articles were: the context of the article was other than educational organization, the article was already included, or the content did not meet the inclusion criteria while reading the full text.

Second search, with same search terms, was done from three journals with the scope of educational administration and leadership. Searches resulted as follows: *Journal of Educational Administration*, 27 hits, and 11 new articles were included; *Educational Management, Administration and Leadership*, 13 hits with three new included articles; and *International Journal of Leadership in Education*, four hits, and two new articles were included. In total, search from journals resulted with 16 new articles. Reasons for exclusion were similar to database search.

In addition to these searches, hand search was conducted from the references of retrieved articles corresponding to the significance of the article content. At this stage nine relevant articles, which met the inclusion criteria, were included to the literature review. Final literature review data consisted of 32 articles. Articles are presented in Table A1, including their respective sources.

Data evaluation stage

In the integrative review method, evaluation of the quality of the primary sources is complexed as there is no 'gold standard' due to the diversity of the primary sources (Whittemore and Knafl, 2005). In the current review, the data evaluation stage was connected to the literature search stage. In addition to fulfilling the inclusion criteria, specific criterion was publishing in a journal implementing peer review. Peer review process was considered to enhance the rigour of articles, and thus, enhance the quality of primary sources.

Of the included articles, 14 were empirical and 18 theoretical papers (see Table A1). Of empirical articles, three were implemented with qualitative research design and 11 with quantitative design.

Until 2002, majority of the included articles were theoretical, and only after this, empirical articles started to increase and to form majority. 16 of the articles were from the US, five from Hong Kong, three from the UK, two from Canada and Finland, and one from Australia, Israel, Portugal and Singapore.

Data analysis stage

Data analysis stage in research review requires the data from primary sources to be ordered, coded, categorized and summarized into integrated and unified conclusion about the research problem (Cooper, 1998; Whittemore and Knafl, 2005). In the current review, the method of inductive content analysis was used as a data analysis method, assisted by Atlas.ti -software. According to Paulus *et al.* (2014), calls have been made for detailed accounts of computer assisted qualitative data analysis. Hence, data analysis stages utilizing Atlas.ti will be highlighted.

Preparation phase of the review started with making sense of the data by reading the primary sources (see Elo and Kyngäs, 2007). Atlas.ti software was used in the preparation phase for coding all citations for terms loose* (ca. 1,300 citations) and tight* (ca. 700 citations) from the primary sources. In the next stage, all primary citations were read through, and relevant contents, from phrases to several paragraphs, connected to the concepts of loose and tight coupling were coded. After this, the coding lists/quotations were printed, giving 125 pages of data including approximately 1,250 quotations.

In organizing phase, quotations were read through, and notes and headings were written in the text while reading it for several times (see Elo and Kyngäs, 2007). In the next stage, quotations were separated for categorizing of the data. For categorizing purpose, quotations were classified through interpretation, as to which content to put in the same category (see Dey, 1993; Elo and Kyngäs, 2007). At this point, Atlas.ti was utilized for returning to the original context of a specific quotation if further clarification was needed. Finally, abstraction for formulating a general description was conducted (see Elo and Kyngäs, 2007).

Presentation

Ideally, the results of integrative review contribute to new understanding of the phenomenon, and emphasize implications for practice, research and policy (Whittemore and Knafl, 2005). The review of existing literature culminates in a new model or framework for the topic which "posits new relationships and perspectives on the topic, yield new questions, or an agenda for further research" (Torraco, 2005, p. 362). In the current literature review, a new conceptual framework was generated, and implications for practice and future research were considered.

Findings

Based on the content analysis categories, a conceptual framework of Continuum of organizational couplings in educational organizations was generated (shown in Figure 1.). The framework has two major components; the core and the peripheral component. The core of the framework consists of the following elements: continuum of couplings, components of couplings and contributory types of organizational couplings. Correspondingly, the periphery of the framework consists of the following elements: leadership, change process and cultural context. Elements of the core and the peripheral component are summarised in Table 1. Elements are presented through the concepts and features that emerged from the review data. Of the framework elements, continuum of couplings and leadership will be discussed in more detail later in this paper. Complementary elements are discussed in the following section.

Table 1. Summary of the elements of the core and the peripheral component of the conceptual framework

Conceptual framework of Continuum of Organizational Couplings in Educational Organizations					
The Core Component			**The Peripheral Component**		
Continuum of couplings (see also Table 2.)	**Components of couplings**	**Contributory types of organizational couplings**	**Leadership** (see also Table 3.)	**Change Process**	**Cultural context**
- Couplings form a continuum of loose to tight (Fennel, 1994; Ogawa and Scribner, 2002; Hargreaves, 2011; see also Orton and Weick, 1990). Loose coupling - Impacts innovativeness in the individuals and organizations - Contributes to the autonomy of individual teachers and organizational sub-units - Distances supervision and instruction in schools Tight coupling - Highlights rules, regulations, monitoring, and certification in organizations - Binds members to the	Coupling elements - Teachers, classrooms, principals, teachers-materials, administrators-classrooms, voters-schoolboard, process-outcome, teacher-teacher, teacher-pupil, teacher-parent, and means and ends (Weick, 1976, see also Firestone (1985), who further adds time and activity) - Technology, task, subtask, role, territory, and person (Weick, 1976) - Positions, offices, responsibilities, opportunities, rewards, and sanctions (Weick 1976) - Outcomes, technology, and structure (Ogawa and Scribner, 2002) - Enclaves (Horne, 1992)	Vertical coupling - Operates hierarchically between different levels in organizations (Dimmock and Tan, 2013) Lateral coupling - Operates between professionals and units/sub-units at the same level (Dimmock and Tan, 2013) Institutional coupling - Connections between administrative structures (e.g. timetables and departments) (Hargreaves, 2011) Inter-institutional coupling - The nature and extent of a school's linkages to other schools and organizations (Hargreaves, 2011)	- Loose coupling refers to the aspects of tolerance and flexibility in a school that allows teachers to execute daily tasks at their own discretion (Pang, 2003) - The critical insight is that loosely coupled educational systems do not adjust to formal or bureaucratic control. Instead, they need a different management strategy for their distinctive advantages to be realized, and disadvantages minimized (Goldspink, 2007; see also Boyd and Crowson, 2002). - "The greater is the control exerted by the centre over its peripheral	- Tightly coupled organizations are easier to control and change from the top (Hargreaves, 2011) - Targets of change in rational systems are "goals, procedures, rules, control and design of the system" (Horne, 1992, 97) - In loosely coupled organizations, different means lead to the same end (Horne, 1992; Weick, 1976) - The technical core of educational organizations, defined as teachers' data-informed instructional practices, is typically in the centre of educational improvement (Shen *et al.*, 2016)	Internal cultural context - Internal cultural context refers here to: - Management culture (Hökkä and Vähäsantanen, 2014) - Departmental culture (de Lima, 2007) - Organizational culture (Dimmock and Tan, 2013; Pang, 1998, 2003) - Administration culture (Pang, 1998), - Professional culture (Dimmock and Tan, 2013) - Individual working culture (Hökkä and Vähäsantanen, 2014) - A shared culture creates the cohesion and coherence organization needs to success (Hargreaves, 2011) - Concept of loose coupling directs action to the symbolic, **Continues**

organizational goals - Endeavours organizational effectiveness Simultaneous coupling - Organizational components varying in the looseness or tightness of their couplings within different relationships and situations (Pang, 2010; Weick, 1976) - In any complex societal sector, "any two elements of an organized system are likely to be embedded in a host of relationships with many system elements" (Rowan, 2002, 609)	- Informed decision making (Shen et al., 2016) Coupling mechanisms - Authority of office, and task interdependence (Weick, 1976) - Interpersonal mechanisms or interactions between administration and teachers within educational organizations (Logan et. al., 1993; Ingersoll, 1994) - Homogeneity, consensus, and similarity (Yair, 1997) - Symbols, interests, contracts, information, resource flow (Rowan, 2002) - Market dynamics, selective forces, and processes of institutional isomorphism (Rowan, 2002) - Learning circles and practicums (Goldspink, 2007) - Assumed coupling mechanisms of top-down management, tightening of the couplings, and	Professional coupling - The level of teacher autonomy (e.g. deciding what and how to teach) (Hargreaves, 2011) Agency-centred coupling - Contributes to teachers' strong agency and collaboration (Hökkä and Vähäsantanen, 2014)	units, the tighter the coupling" (Dimmock & Tan, 2013, 323) Leadership strategies in the context of loosely coupled organizations - Tightening of the couplings - Strategies to balance loose and tight aspects of educational organizations - Strategies for improving job satisfaction - Features of leadership-teacher reciprocity Leadership strategies in the context of tightly coupled organizations - Tightening of the couplings - Strategies to balance loose and tight aspects of educational organizations - Controlling strategies - Features of leadership-teacher reciprocity	Strategies for educational improvement - The top-down, systemic change strategy for tightening of the loosely coupled system (Shen et al., 2016) - The bottom-up strategy where loose coupling has been considered as something to work with, rather than against (Shen et al., 2016) - Supporting teachers' professional development and improvement (Gamoran, 2008; Shen et al., 2016) - Data-informed and shared decision making (Fennell, 1994; Shen et al., 2016) - Professional-izing teaching (Shen et al., 2016) - Developing professional learning communities (Shen et al., 2016) - Encouraging and supporting active experimentation in the principle of trust	cultural side of organizations. This, however, provides little or no direction on how to align culture with structure (Meyer, 2002a) - Management of values can be seen to provide a means for the management of culture. (Pang, 1998) - However, the strength of school's professional and organizational cultures makes the transition for entrants from other sectors to school leadership difficult by potentially creating an inherent risk-averse culture through rigours and expectations of an assessment-oriented system (Dimmock and Tan, 2013) External, sociocultural, context - Coupling features may vary according to different cultures, state systems and environments (Dimmock and Tan, 2013) **Continues**

	systemic change approach (Shen *et al.* 2016) Coupling dimensions - Work scrutiny, centralization, goal consensus/vision, autonomy, and manipulative control (Logan *et al.*, 1993) - Rational and institutional dimensions (Ogawa and Scribner, 2002; see also Tyler, 1987; Weick, 1976) - Horizontal communication, vertical communications, centralization on resource matters, centralization on instruction matters, facilitative leadership, and goal consensus (not presented in review data, see Firestone, 1985) - Strength, directness, consistency and dependence (not presented in review data, see Beekun and Glick, 2001)			(Gamoran, 2008; Hargreaves, 2011). - Social network analysis for clarifying the communication networks of the organization (de Lima, 2007) - Complex systems perspective, advocating working with and harnessing the robust self-organization [] while also revealing the basis for strategic intervention and change." (Goldspink, 2007, 46; see also Dimmock and Tan, 2013; Meyer, 2002b)	- Emerged specifically from the paper of Dimmock and Tan (2013), and their context of Asian culture contributing to tight coupling in Singapore schools.
Couplings as organizational phenomenon				
Research practice			**Research implications**	

In the literature, four components of couplings have been distinguished: elements, mechanisms, dimensions and domains (Beekun and Glick, 2001). From coupling components, Rowan (2002) has defined elements and mechanisms as fundamental aspects of the coupling theory. Organizational elements can be coupled in an organizational system, and mechanisms can be used to couple these elements (Rowan, 2002; see also Beekun and Glick, 2001; Firestone, 1985). Coupling dimension characterizes the quality of the relationship among coupling elements (Weick, 1982), and coupling domain describes "the content area of the relationship between coupling elements" (Beekun and Glick, 2001, p. 231). In the review data, the coupling elements and mechanisms were prominent but dimensions, and especially domains, were not (see Table 1.).

Several contributory types of organizational couplings emerged from the review data. From both centre/periphery and within/between school levels one can find examples of both tight and loose coupling (Dimmock and Tan, 2013). Contributory organizational couplings offer concepts for considering couplings from individual level (lateral, professional and agency-centred coupling), through organizational level (vertical, institutional and agency-centred coupling), to the level between different organizations (inter-institutional and agency-centred coupling) (see Dimmock and Tan, 2013; Hargreaves, 2011; Hökkä and Vähäsantanen, 2014).

In the review data, certain strategies for educational improvement, the most prominent type of change process, were presented (see Table 1.). Yet, according to the literature, the ideas on how to deal with the 'looseness' in the context of educational improvement differ substantially (Shen *et al.*, 2016; see also de Lima, 2007). When considering tight management practices, it is stated that they support organizational change, and thus, help the organization to utilize new educational practices (Hökkä and Vähäsantanen, 2014). However, Fennell (1994) states that teachers' views towards change processes are more positive in schools where shared decision making among teachers and management, and organizational goals for the implementation processes, were noted.

Cultural context includes the internal cultural context, and the external, socio-cultural context of the educational organization. According to Hargreaves (2011), a shared internal culture contributes to success in organizations by creating cohesion and coherence. Loose coupling concept draws attention to the power of culture and institutionalization, which, in turn, can produce organizational stability and durability (Meyer, 2002b). However, in tightly coupled organizations, there is potential for risk-averse cultures to form (Dimmock and Tan, 2013).

The context of external cultural context emerged specifically from the paper of Dimmock and Tan (2013, p. 332) who introduce components making for tight coupling in Singapore schools. One major component is the impact of "a socio-cultural leader-teacher compact" as there exists Asian cultural characteristics binding teachers and leaders in a form of vertical tight coupling.

In the conceptual framework, there is bilateral impact between the core component and the elements of leadership, change process and internal cultural context. Leadership impacts the couplings in organizations, and the consistency of couplings poses demands for leadership. Also, change initiatives pursue to impact the couplings in organizations, and the consistency of couplings poses challenges for implementing change, specifically in more loosely coupled organizations. Organization's internal culture impacts the couplings in organizations, and the consistency of couplings affects organization's internal culture. Between the core component and external cultural context the impact is unilateral, as the socio-cultural context of the organization potentially affects the couplings in organizations.

The conceptual framework can be considered from two potential perspectives, namely 1) describing couplings as organizational phenomenon, and 2) describing tools for conducting research and research implications. The first perspective describes coupling attributes and relationships found from the review data. The second perspective offers educational administration researchers tools for conducting research in this context (the core component), and potential research implications (the peripheral component).
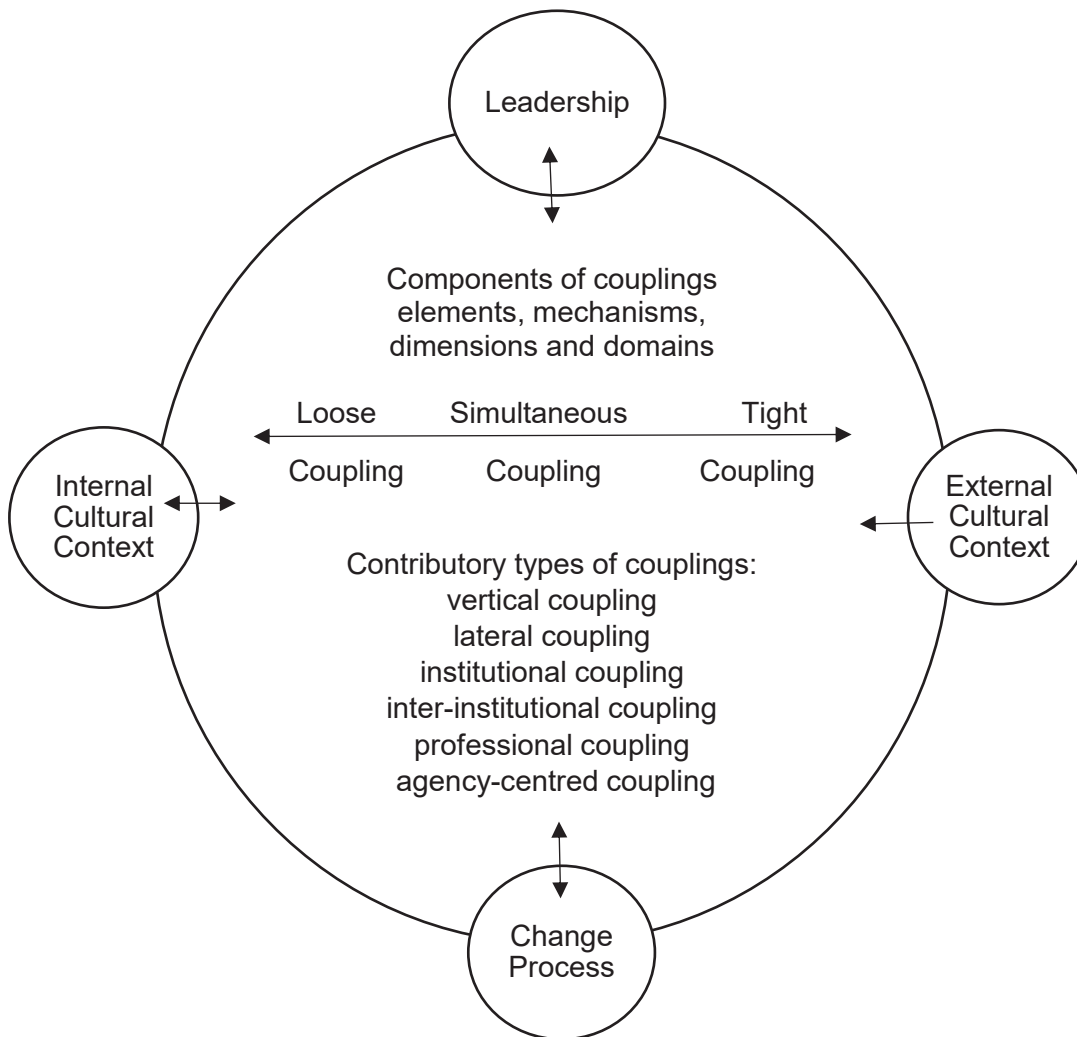
Leadership

Components of couplings
elements, mechanisms,
dimensions and domains

Loose — Simultaneous — Tight
Coupling — Coupling — Coupling

Internal Cultural Context

External Cultural Context

Contributory types of couplings:
vertical coupling
lateral coupling
institutional coupling
inter-institutional coupling
professional coupling
agency-centred coupling

Change Process

Figure 1. Conceptual framework of Continuum of Organizational Couplings in Educational Organizations

In the following sections, the elements of continuum of couplings and leadership will be discussed in more detail.

Continuum of couplings

Orton and Weick (1990) have stated that tight and loose coupling are at the endpoints of a scale that extends from tightly coupled to loosely coupled. Thus, it forms a continuum with more flexible and moderate constrains at the central positions (Fennell, 1994; Hargreaves, 2011; Ogawa and Scribner,

2002). In the framework, continuum of couplings includes features of loose coupling, tight coupling and simultaneous coupling. Succeeding, these features will be described.

Features of loose coupling

In the context of loose coupling in educational organizations, three broader themes emerged from the review data. These features can be described as follows. First, loose coupling impacts innovativeness in the individuals and organizations. Second, loose coupling contributes to the autonomy of individual teachers and organizational sub-units. Third, loose coupling distances supervision and instruction in schools. Characteristics of these features, as well as other features connected to loose coupling, are summarised in Table 2.

Findings of Pang (1998, 2003, 2010; see also Meyer, 2002b) show that an atmosphere conducive to innovation has been developed in loosely coupled educational organizations. Loosely coupled organizations tolerate "both mediocre and exceptional performance with neither positive nor negative sanctions forthcoming" (Pajak and Green, 2003, p. 407; see also Pang, 1998, 2010), diversity, creativity and experimentation in sub-units (Hargreaves, 2011) and flexibility (Pang, 1998, 2010). However, due to relying on informal networks to transfer innovative practices (Hargreaves, 2011), the very structure of loosely coupled organizations leads to the difficulty of introducing and sustaining innovations (Pajak and Green, 2003; see also Weick, 1976).

The presence of individual and organizational autonomy is a significant feature of loosely coupled educational organizations (e.g. Aurini, 2012; Cheng, 2008, 2009). Pang (2003, 2010) states that teachers' autonomy, facilitated by loose coupling, has strong connection with job satisfaction and commitment to work, but it may also act as counterforce for educational transformations (see e.g. Hökkä and Vähäsantanen, 2014; Shen *et al.,* 2016). As a characteristic and indicator of loose coupling, autonomy has been connected to the features of professional orientation and professionalism (Pang, 1998) and employment of discretion (Cheng, 2008, 2009; Logan et al., 1993; Pang, 1998). Respectively, decentralization and flat, distributed leadership have been described as prominent characteristics of loosely coupled system (Hargreaves, 2011; Horne, 1992; Weick, 1976), resulting in faculties in loosely coupled organizations being overly autonomous and lacking sufficient accountability (Ingersoll, 1994).

Considering the activities and outcomes in educational organizations, the usual example of loose coupling in this connection is between supervision and instruction (Willower, 1981). A specific aspect of loosely coupled organizations is the lack of connections between the core operations of institutions and their management activities (Murphy *et al.*, 1985), and moderately weak linkage between the institutional environment and its instructional activities (Aurini, 2012; see also Pajak and Green, 2003). However, Willower (1981) has stated that indirect supervision loosely coupled to instruction is likely to encourage good teaching to greater extent than would a more authoritative supervision.

Features of tight coupling

In the context of tight coupling, three broader themes emerged from the review data. These features, connected to tight coupling in educational organizations, can be described as follows. First, tight coupling highlights rules, regulations, monitoring and certification in organizations. Second, tight coupling binds members to the organizational goals. Third, tight coupling endeavours organizational effectiveness. Characteristics of these features, in addition to other features connected to tight coupling, are summarised in Table 2.

Tight coupling refers to the relatively strict rules and regulations approved by schools to use control (e.g. Cheng, 2008, 2009; Willower, 1981). Weick (1976) has stated that the regulation includes resources, teachers, pupils, topics and spaces (see also Logan et al., 1993). Additionally, tight coupling comes as a result of schedules, procedures, hierarchy, authority, rewards and sanctions (Cheng, 2008).

Tightly coupled educational organizations have strong bureaucratic control features that connect teachers to the organizational goals and values (Cheng, 2008; Pang, 1998), and additionally, to the organizational visions and philosophy (Pang, 1998, 2003, 2010.). Cheng (2009, p. 284) has described tight coupling as organizational and hierarchical "structures built to facilitate and enhance the achievement of school goals". According to Murphy *et al.* (1985), tightly coupled educational organizations tend to be characterized by few, clear and academically oriented goals, and goal orientation is considered as one of the confirmed indicators of tight coupling (Pang, 2003, 2010). However, even within tightly coupled educational organizations, members may actively induce institutional directives and align them with their perceptions of organization's purpose and goals (Aurini, 2012).

Murphy *et al.* (1985, p. 7) have stated that according to research, "effective schools have much tighter connections among different organizational levels". Additionally, accountability is much more relevant characteristic of effective, tightly coupled educational organizations, and there is rigorous assessment of effectiveness of the instructional programs and curriculum. Moreover, tight coupling in educational organizations enables administering continuous changes, with the aim of profitability and effectiveness through strategic planning (Meyer, 2002a; Rowan, 2002).

Simultaneous coupling in educational organizations

Several concepts have been utilized to describe the coexistence of loose and tight coupling in educational organizations. For example, this coexistence has been described to be a combination (Boyd and Crowson, 2002; Dimmock and Tan, 2013; Hargreaves, 2011), tangled (Rowan, 2002), hybrid (e.g. Dimmock and Tan, 2013; Meyer, 2002a; Orton and Weick, 1990), and most commonly, simultaneous (e.g. Logan *et al.*, 1993; Orton and Weick, 1990; Pang, 2003, 2010).

Simultaneous coupling refers to organizational components varying in the looseness or tightness of their couplings within different relationships and situations (Pang, 2010; Weick, 1976; see also Boyd and Crowson, 2002). By referring to the simultaneous loose and tight coupling, Rowan (2002, p. 609) poses that in any complex societal sector, "any two elements of an organized system are likely to be embedded in a host of relationships with many system elements".

Weick (1976) has stated that elements and couplings in educational organizations occur in two dimensions: those established by institutional compliance and those determined by rational design (see also Ogawa and Scribner, 2002). These systems are simultaneously "open and closed, indeterminate and rational, spontaneous and deliberate" (Orton and Weick, 1990, p. 204-205; see also Meyer, 2002b). An example of simultaneous coupling is that schools can be characterized by simultaneous tight coupling of student discipline components and loose coupling of teacher behaviour in supervision (Logan et al., 1993). Another example is that some organizational actors or subsystems might "deliberately attempt to weaken ties to one element in the system in order to tighten coupling to another element" (Rowan 2002, p. 609). Furthermore, differentiating elements within and between teaching and learning reveals that organizational environment is loosely coupled to some instructional practices and tightly coupled to others (Aurini, 2012).

Theorists continue to debate of both actual and desired coupling – tight, loose or both simultaneously – featuring educational institutions and systems, and their influence on organizational effectiveness (Boyd and Crowson, 2002; Dimmock and Tan, 2013; Fusarelli, 2002; Hargreaves, 2011; Orton and Weick, 1990). All in all, studies suggest that 'effective' and 'excellent' schools are simultaneously loosely and tightly coupled (e.g. Pang, 2000, 2003).

Table 2. Features of loose and tight coupling in educational organizations

Loose coupling	Tight coupling
<u>Impacts innovativeness in the individuals and organizations</u> - Mechanisms to adapt promptly to unique problems (Weick, 1976) - Teachers can manifest disconnection from the organizational structure and authority to exercise individual discretion (Cheng, 2008; Pang, 1998, 2010) - Failure in one sub-unit does not spread to damage the rest of the organization (Weick, 1976; Pajak and Green, 2003; Hargreaves, 2011) - Tolerance of mediocre and exceptional performance, diversity, creativity and experimentation in sub-units (Hargreaves, 2011; Pajak and Green, 2003) - Challenge is that structure of organizations leads to the difficulty of introducing and sustaining innovations (Pajak and Green, 2003) <u>Contributes to the autonomy of individual teachers and organizational sub-units</u> - Independent parts which do not act responsively (Orton & Weick, 1990) - Individual and organizational autonomy is a significant feature of loosely coupled educational organizations (e.g. Aurini, 2012; Cheng, 2008, 2009; Hargreaves, 2011; Pang, 2003; Tyler 1987) - Teachers' autonomy has strong connection with job satisfaction and commitment to work (Pang, 2003, 2010; see also Hökkä and Vähäsantanen, 2014) - Autonomy has been connected to the features of professional orientation and professionalism (Pang, 1998), and employment of discretion (Cheng, 2008, 2009; Pang, 1998) - Teachers must develop individual professional skills, and need to behave as self-managing professionals in order to work effectively (Billing, 1998; Cheng, 2008) - However, teaches' professional autonomy, and strong professional agency may act as	<u>Highlights rules, regulations, monitoring and certification in organizations</u> - Relatively strict rules and regulations approved by schools to control teachers (Cheng, 2008, 2009; Pang, 1998; Willower, 1981; see also Tyler, 1987) - Regulation includes resources, teachers, pupils, topics and spaces (Weick, 1976; see also Logan *et al.*, 1993) - Tight coupling comes as a result of rules, schedules, procedures, hierarchy, authority, rewards and sanctions (Cheng, 2008) - Regular monitoring of student progress, processes and sub-units (Aurini, 2012; Hargreaves, 2011; Murphy *et al.*, 1985) - Evaluation and decision making closely linked (Murphy *et al.*, 1985) - Administrative zones and classrooms highly connected (Ingersoll, 1994) - Routinized settings (Weick, 1976; Willower, 1981) - Standardized operating procedures (Hargreaves, 2011) - Routines for student control (Logan *et al.*, 1993) - Significant attention devoted to management of instruction and curriculum (Murphy *et al.*, 1985) <u>Binds members to the organizational goals</u> - Strong bureaucratic control features that connect teachers to the organizational goals and values (Cheng, 2008; Pang, 1998), and to the organizational visions and philosophy (Pang, 1998, 2003, 2010) - Goals are few, clear and academically oriented (Murphy *et al.*, 1985) - Goals provide the direction for activities (Murphy *et al.*, 1985) - However, even within the tightly coupled educational organizations, members may actively induce technical and institutional directives and align them with their perceptions of an organization's central purpose and goals (Aurini, 2012)　　**Continues**

counterforces for educational transformations (Gamoran, 2008; Hökkä and Vähäsantanen, 2014; Shen *et al.*, 2016)

- Decentralization and flat, distributed, leadership enables the autonomy of sub-units (Hargreaves, 2011; Horne, 1992; Weick, 1976)
- Faculties are described as being overly autonomous and lacking sufficient accountability (Ingersoll, 1994)

Distances supervision and instruction in schools
- Sub-units are weakly monitored (Weick, 1976)
- Lack of connections between the core operations of institutions and their management activities (Murphy *et al.*, 1985)
- Poorly defined organizational instruction, combined with unsettling environment (Pajak and Green, 2003)
- Captures the moderately weak linkage between the institutional environment and its instructional activities (Aurini, 2012)
- Minimal attention to the management of instructions and staff accountability (Murphy *et al.*, 1985)
- However, indirect supervision loosely coupled to instruction is likely to encourage good teaching (Willower, 1981)

Other features:
Benefits:
- Persistence, buffering, adaptability, satisfaction, effectiveness (Orton and Weick, 1990)
- Teachers have ample opportunities for professional development, and strong sense of professional agency (Hökkä and Vähäsantanen, 2014)
- Independency, adaptability, diversity, and self-efficacy (Shen *et. al.*, 2016)

Neutral features:
- Organizations are held together by shared beliefs, norms and institutionalized expectations (Meyer, 2002b)
- Teachers' professional development mainly occurs through planning and implementation of working practices (Hökkä and Vähäsantanen, 2014)

Endeavours organizational effectiveness
- Accountability is relevant characteristics of effective, tightly coupled, educational organizations (Murphy *et al.*, 1985)
- Rigorous assessment of effectiveness of the instructional programs and curriculum (Murphy *et al.*, 1985)
- Possibility to administer continuous and large-scale changes (Meyer, 2002a; Rowan, 2002)
- Advantages of efficiency and effectiveness to the system as a whole by securing synergies in goal achievement (Dimmock and Tan, 2013)
- On the other hand, some features of tight coupling may enhance organizational effectiveness, while other tight features may decrease the capacity effectiveness (Dimmock and Tan, 2013; Logan *et al.*, 1993)

Other features:
Benefits:
- Tightly coupled organizations are easier to control and change from the top (Hargreaves, 2011)
- Same strategic values in the whole organization (Dimmock and Tan, 2013)
- Opportunities for professional development (Hökkä and Vähäsantanen, 2014)

Neutral features:
- Components that do not act independently (Orton and Weick, 1990)
- Integrated or inter-dependent sub-units (Hargreaves, 2011)
- Hierarchical, with leadership focus from the top (Hargreaves, 2011)
- Responsiveness without distinctiveness (Orton and Weick, 1990)

Challenges:
- Offers limited possibilities for innovativeness, as sub-units have little freedom for experimentation (Hargreaves, 2011), and limited discretion for teachers (Weick, 1976)
- Constraints for the teachers' professional orientations (Hökkä and Vähäsantanen, 2014)
- Challenges teachers' professional development, professional agency, and commitment to the work (Hökkä and Vähäsantanen, 2014)

Continues

- Elements are affected by the external
environment eventually rather than
immediately, occasionally rather than
continually (Horne, 1992)

Challenges:
- Relative lack of coordination (Hargreaves,
2011; Horne, 1992; Weick, 1976)
- Unclear goals and technology (Murphy *et al.*,
1985)
- Different means lead to the same end (Horne,
1992; Weick, 1976)
- Difficulty and resistance to change with
planned unresponsiveness (Hargreaves, 2011;
Horne, 1992; Hökkä and Vähäsantanen, 2014;
Meyer, 2002a; Pajak and Green, 2003; Weick,
1976)
- Lack of contact among participants (Murphy
et al., 1985)
- Facilitates social reproduction and
misrecognition (Pajak and Green, 2003)
- Poses challenges in higher education, in the
context of manager-academics' work (Vuori,
2015)
- Ambiguity and obstinacy (Shen *et. al.*, 2016)

Leadership in loosely and tightly coupled educational organizations

At the time of the emergence of loose coupling concept, practitioners in education were asked to embrace ambiguity and loose coupling in their organizations. They were recommended to learn the art of symbolic leadership rather than using top-down management strategies appropriate for more tightly coupled structures. (Meyer, 2002a.) However, the new managerial tide, culminating to New Public Management (NPM), has brought educational administrators and policy makers under increasing pressures for accountability, organizational effectiveness, capacity building and standardization – terms not fluently connected to the philosophy of loose coupling and symbolic leadership (Meyer, 2002a; Rowan, 2002). Moreover, current studies state that the loosely coupled nature of educational organizations still continues to exist (e.g. Hökkä and Vähäsantanen, 2014; Shen *et al.*, 2016; Vuori, 2015).

Leadership strategies and outcomes, emerging from the review data, are presented in Table 3. In the context of loosely coupled organizations, emerging themes were: tightening of the couplings, balancing loose and tight aspects of educational organizations, improving job satisfaction, and correspondingly, leadership-teacher reciprocity. In the context of tightly coupled organizations, emerging themes were: tightening of the couplings, balancing loose and tight aspects of educational organizations, controlling strategies and leadership-teacher reciprocity.

Effective leadership strategies to improve job satisfaction in schools include emphasizing cultural linkage through greater participation and collaboration, enhancing loose coupling through higher degree of discretion and autonomy, by fostering sense of community, and by enforcing order and discipline (Pang, 2003). However, according to Vuori (2015, p. 652), rationally inclined managers

request "performance targets that enable them to create a tighter coupling between their own activities" and the educational organization. Additionally, tight coupling as a controlling strategy is considered as an indicator of bureaucratic control in educational organizations (Cheng, 2008), yet, the use of bureaucratic linkage has been shown to jeopardize teachers' sense of community and job satisfaction (Pang, 2003, 2010). Therefore, organizational phenomena balancing loose and tight aspect of educational organizations need to be considered, and, for example, 'organizational learning' and 'network organization' reflect the need to balance conservative and creative aspects, and rational and spontaneous forces of these complex organizations (Meyer, 2002b; see also de Lima, 2007).

Table 3. Leadership strategies and outcomes in loosely and tightly coupled educational organizations

Leadership strategies in loosely coupled organizations	**Leadership strategies in tightly coupled organizations**
Tightening of the couplings - Standardized management script, with the ideas of rationality and employee involvement (Vuori, 2015) - Performance targets for enabling managers to create a tighter coupling between their own activities and the educational organization (Vuori, 2015) - The top-down, systemic change strategy by developing accountability tests, publishing curriculum standards, and providing rewards and sanctions based on the results of the accountability tests (see e.g. Fusarelli, 2002; Shen *et al.* 2016) - Organization's academic agenda clearly defined (Murphy *et al.*, 1985) - Consistency in the school's instructional practices and curriculum established (Murphy *et al.*, 1985) - Direct instructions or active teaching methods emphasized to promote student achievement (Murphy *et al.*, 1985) - More time allocated to teaching, and time used more effectively (Murphy *et al.*, 1985) - Ongoing structured staff development required (Murphy *et al.*, 1985) - Institutional isomorphism enabling educational organizations to function in an ever-changing environment (Fusarelli, 2002) - Curriculum development, salary reforms and a quality assurance process (Hökkä and Vähäsantanen, 2014)	
Strategies to balance loose and tight aspects of educational organizations - Ideas of 'organizational learning', 'entrepreneurial organization', and 'network organization' reflect the need to balance conservative and creative aspects of the organization, as well as to balance tension between rational and spontaneous forces of an organization (Meyer, 2002b; see also de Lima, 2007) - For creating agency-centred coupling systems, collaboration between actors within different levels, high quality communication and communication systems, and meaning construction within and beyond organizational boundaries need to be promoted (Hökkä and Vähäsantanen, 2014)	

Continues

Leadership strategies to improve job satisfaction	Controlling strategies
- Emphasizing cultural linkage through greater participation and collaboration (Pang, 2003) - Enhancing loose coupling through higher degree of discretion and autonomy, by fostering sense of community, and by enforcing order and discipline (Pang, 2003) - Bottom-up strategies, such as professional learning communities (Shen *et al.*, 2016) - Teachers are kept well informed on matters of importance (Pang, 1998) - Teachers are provided with information concerning changes, as accurately as possible (Pang, 1998) - Administrators make themselves visible and approachable around the school (Pang, 1998) - To minimize the chance of misunderstanding, the thorough communication system and the gained consensus should be utilized (Pang, 1998)	- Tight coupling and alignment in leadership may be conducted through policies, values, structures, and processes (Dimmock and Tan, 2013) - Leader might have control over the direction and outcomes of the meetings (Horne, 1992) - Leader controls the day-to-day running of budgetary affairs, and is able to bring pressure on school to comply with his wishes, if he chooses to (Horne, 1992) - The educational materials, the progress monitoring, and even the 'emotional labour' of instruction are highly formalized and monitored (Aurini, 2012) - Specifying tasks, supervising them closely and providing the possibility of relatively swift, harsh sanctions for deviance (Horne, 1992) - Bureaucratic control (Cheng, 2008) as a, for example, communication structure practicing 'one size fits all' (Meyer, 2002b) - Mentoring has been claimed to intend to tighten the coupling between leaders and the technical core of the school organization (Cheng, 2009)
Leadership - teacher reciprocity - Symbolic leadership strategies (Meyer, 2002a) - Significant and negative effect on teachers' job pressure (Pang, 2010) - Positive and significant effect on teacher commitment through professional development and allowing teachers more autonomy (Pang, 2010) - Enables the consolidation of the leadership influence on teachers who need room for discretion and self-determination, and allows a great deal of freedom to teachers (Pang, 2003) - Teachers have certain opportunities to participate in decision making (Ingersoll, 1994; Pang, 1998, 2003, 2010), as number of classroom instructional decisions, such as implementation, execution and enforcement, are typically delegated to teachers (Ingersoll, 1994)	Leadership - teacher reciprocity - Positive direct effect on teachers' sense of community, and positive indirect effect on teachers' job satisfaction (Pang, 2003) - Promotes collaborative professional development between teachers and school leaders (Dimmock and Tan, 2013; Pang, 1998) - Encourages intellectual sharing that could lead to consensus among the staff (de Lima, 2007; Pang, 1998) - Crucial set of dynamics creating tensions between the tight management and the professional agency of teachers (Hökkä and Vähäsantanen, 2014; see also de Lima, 2007)

Discussion

This paper seeks to synthesise the attributes of loose and tight coupling, and to determine whether this phenomenon offers value and strategies for the current educational administration and research. Through the inductive content analysis, specific categories emerged from the review data, and the

conceptual framework of Continuum of organizational couplings in educational organizations was generated (see Figure 1.).

The academic debate of the coupling phenomenon has now continued for four decades. Already in 1976 Weick has argued that the 'tools' for coupling include more than strategies, regulations, policies and frameworks. In addition, they include conjoint values, cultures, structures, processes and practices, and as, for example, the research of Pang (1998, 2003, 2010) shows, this argument still seems to be valid. Additionally, Cheng (2008) has stated that the theory of coupling provides a way of conceptualizing educational systems in terms of the interrelatedness of behavioural patterns among teachers. Emerging themes and features for loose and tight coupling in the current review support this view and add to it – theory of coupling provides a way of conceptualizing educational systems in terms of interrelatedness of behavioural patterns among teachers, leadership and organization.

Furthermore, it is argued here that it is not relevant to consider educational organizations as either loosely or tightly coupled (see e.g. Dimmock and Tan, 2013; Rowan, 2002) but as having simultaneous loose and tight configurations (see e.g. Peters and Waterman, 1982; Sergiovanni, 1984), and there are several organizational developments that have reflected a shift to a more simultaneous loose and tight coupling in educational organizations. Among these are, for example, shift to strategic management, team forms of organization, incentive-based funding and attempts to empower the customers. (Meyer, 2002b.)

However, current studies state that loosely coupled nature of educational organizations continues to exist (e.g. Hökkä and Vähäsantanen, 2014; Shen *et al.*, 2016; Vuori, 2015), and pose challenges for the leadership and management in educational organizations (see e.g. Vuori, 2015). Findings of Vuori show that, according to middle management in higher education organizations, if couplings stay loose, organizations will be further away from the ideals of modern and efficient educational organization. On the other hand, an example of the effects of tight management is that it might demand teachers either to adapt or to leave the organization (see Hökkä and Vähäsantanen, 2014).

Thus, there is a need to understand and balance tight and loose aspects of educational organizations, as in the case of 'organizational learning', network organization', 'entrepreneurial organization' and agency-centred coupling (see de Lima, 2007; Hökkä and Vähäsantanen, 2014; Meyer, 2002b). In order to succeed in a knowledge-based society, educational organizations need to maximize their capacity for organizational learning and networking by balancing stability and change, individual autonomy and collective cooperation, strategic leadership and bottom-up entrepreneurship, and steering and facilitation (Meyer, 2002b; see also de Lima, 2007). Correspondingly, agency-centred coupling contributes to teachers' strong agency, and in order to create agency-centred coupling systems, collaboration, communication and communication systems, and 'shared meaning construction' need to be promoted within and beyond educational organizations (Hökkä and Vähäsantanen, 2014).

Additionally, balancing loose and tight aspects through simultaneous loose and tight coupling is considered as characteristic of effective and excellent educational organizations (e.g. Pang, 2000, 2003; Peters and Waterman, 1982; Sergiovanni, 1984), and findings of Pang (2003) show that school administrators should resort more to simultaneous loose and tight coupling, and cultural linkage, to enhance school effectiveness and to give people meaning in their work (see also Sergiovanni, 1984). Correspondingly, findings of this review show that endeavouring simultaneous loose and tight configurations benefits educational organizations as loose coupling allows innovativeness and autonomy - and job satisfaction - of individuals and organizational sub-units, and tight coupling entails supervision, instruction and regulation as tools for binding members to the organizational goals, and for enabling organizational effectiveness.

In addition to the organizational phenomena balancing loose and tight coupling, other phenomena connected to coupling concepts were also presented in the review data. For example, according to Goldspink (2007, p. 28; see also Meyer, 2002a; Rowan, 2002), the New Public Management, taken from the private enterprises, demonstrates the classical bureaucratic model of educational administration. This model assumes "that there is a tight coupling between education policy (e.g. curriculum) and how teachers teach". However, the increased market-oriented thinking, and application of NPM, has been seen as a negative tendency by teachers (Hökkä and Vähäsantanen, 2014).

Moreover, complex, loosely coupled systems include large numbers of agents in highly connected networks. These systems can present both high levels of order and disorder, and therefore, complex system perspective may advocate tools for "working with and harnessing the robust self-organization". This may also reveal the basis for reform and strategic intervention. A key here is to focus "on relationships and the building of congruent behaviour based around trust." (Goldspink, 2007, p. 46; see also Dimmock and Tan, 2013; Meyer, 2002b.) In addition to complex system perspective, balancing loose and tight aspects offers potential for successful systemic reform initiatives in educational organizations by combining elements of both bottom-up and top-down strategies (Fusarelli, 2002; see also Fennell, 1994). Hence, the balancing accounts for teachers' professionalism but does not undermine the capability of school improvement (de Lima, 2007).

Findings of this review show that the concepts of loose and tight coupling are rich in meanings (see Table 2.), and they have been criticized for their ambiguity, varying definitions and implications (see e.g. Firestone, 1985; Meyer, 2002b; Tyler, 1987; Yair, 1997). In addition to features of couplings, coupling components emerged as essential attributes to loose and tight coupling in educational organizations (see Beekun and Glick, 2001; Firestone, 1985; Weick, 1982). When conducting research in the context of loose and tight coupling, it is necessary to define the used coupling components (see Yair, 1997), as well as the used definitions for loose and tight coupling (see Ingersoll, 1993; Pang, 2003).

Rowan (2002, p. 604) has argued that "ideas about loose coupling can serve a useful purpose in organization theory, but only if they are re-worked substantially" (see also Tyler, 1987). Furthermore, according to Ingersoll (1993), assessment of organizational coupling is highly dependent on research location, used criteria and method (see also Firestone, 1985; Logan *et al.,*1993; Orton and Weick, 1990; Tyler, 1987). Considering the above-mentioned coupling attributes will enhance and enable the accumulation and comparison of the conducted research in this context, and here the current paper with the conceptual framework of organizational couplings may function as a basis for future research.

The framework describes coupling attributes and relationships found from the review data, and it also offers tools for conducting research in this context by defining features of coupling concepts within the continuum and components of couplings, and by highlighting contributory types of organizational couplings (the core component); and by defining potential research implications, namely, implications on leadership, change process and cultural context (the peripheral component). Finally, examples of these research implications will be considered.

In the review data, only few organizational phenomena emerged which balance the loose and tight coupling, and which could be considered to give insights for leadership strategies (e.g. organizational learning and agency-centred coupling). However, only agency-centred coupling highlights the role of teachers' professional agency, contributing to teachers' autonomy, discretion and job satisfaction. Therefore, teachers' experience of professional agency, in connection with the used leadership strategy (loose, tight or both simultaneously), needs further research.

Additionally, there is evidence that loosely coupled educational organizations still continue to exist, and that resistance to change is a prominent characteristic of loosely coupled organizations.

Therefore, there is a need to further explicate the conditions necessary for these complex organizations to improve (see also de Lima, 2007).

The strength of school's internal culture potentially contributes to risk-averse culture in tightly coupled organizations (see Dimmock and Tan, 2013). Furthermore, loose coupling directs action to the symbolic, cultural side of organizations but this provides little or no direction on how to align culture with structure (see Meyer, 2002a). Hence, more research is needed on the bilateral connections of organizational couplings and factors affecting organization's internal cultural context.

Limitations

Majority of the included articles were theoretical in nature, and this can be considered as a limitation. However, this is not a methodological limitation with the integrative literature review, as the method allows both empirical and theoretical sources to be included.

Conclusions

The findings confirm that loose and tight coupling phenomenon still resonates with the current educational practice and administration. The main inference of loose and tight coupling in educational organizations is that loose coupling is, mainly, beneficial feature from the teachers' perspective; and tight coupling is, mainly, beneficial feature from the perspective of leadership. Therefore, leadership strategies need to be developed and emphasized where educational organizations can take full advantage of their loose and tight configurations, and hence, endeavour simultaneous coupling, effectiveness, and collaboration, discretion and job satisfaction of their staff.

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Table A1. Matrix of the reviewed literature

Author year/country	Methodology	Setting / sample	Source
Aurini (2012) CA	Ethnographic case study	- Field research in Ontario Learning Centre franchise in Toronto, Ontario - 37 interviews for tutoring business representatives	EBSCO
Billing (1998) UK	Theoretical	Reviews management theories about organizational structure, culture, and the environment	hand search
Boyd and Crowson (2002) US	Theoretical	The hybrid model of organizations	Journal of Educational Administration JEA
Cheng (2008) HK	Questionnaire survey - Structural equation modelling	- 20 aided secondary schools in Hong Kong - Respondents: 388 teachers	Web of Science
Cheng (2009) HK	Quasi-experiment design - Structural equation modelling	- 20 aided secondary schools in Hong Kong - Respondents: 360 teachers	hand search **Continues**

de Lima (2007) PT	Case study of two departments in a school - Whole-school survey: One-way ANOWA - Department social network questionnaire: density and tie strength - Interviews: thematic content analysis	- Portuguese Basic Integrated School - Whole-school sample: 83 teachers - Response rate for survey and questionnaire: 88% - Interviews: 3 interviews in two departments	hand search
Dimmock and Tan (2013) SG	Theoretical	Characterization of school leadership and its context in Singapore	JEA
Fennell (1994) CA	Theoretical	Reviews the developments in the use of linkage metaphor in 1980s with the emphasis on the change process	JEA
Fusarelli (2002) US	Theoretical	Reviews the effectiveness of systemic reform initiatives	JEA
Gamoran (2008) US	Stratified survey design - Two items of the School and Staffing Survey (SASS) 2003-2004	- National sample of schools: 9 444 public schools, 3 443 private schools, including 114 Jewish Schools - Weighted sample: 3 056 100 public school teachers, 440 200 private school teachers, 27 500 teachers in Jewish schools	hand search
Goldspink (2007) UK	Theoretical	Educational reform from loosely coupled and complex system perspective	Educational Management, Administration and Leadership EMAL
Hargreaves (2011) UK	Theoretical	Conceptual schemes on the phenomenon of partnerships between clusters of schools	JEA
Horne (1992) US	Theoretical	Organizational change in educational systems with implications of a loosely coupled model	ERIC
Hökkä and Vähäsantanen (2014) FI	Synthesis of two research projects (A and B) - A: In-depth, open ended interviews - B: Narrative interviews	- A: eight teacher educators - B: 16 vocational teachers in 2006 and 14 of these teachers in 2007	Int. Jour. of Leadership in Education **Continues**

Ingersoll (1994) US	Stratified survey design with multi-level statistical techniques - The School and Staffing Survey (SASS) 1988	- Sample of 5 292 junior and senior high schools in US - Respondents: 24 480 teachers	hand search
Logan et al. (1993) US	Correlations - Organizational coupling structure inventory-teacher form (OCSI-T) - Robustness semantic differential (RSD) - Index of perceived organizational effectiveness (IPOE)	- 73 schools (55 elementary and 18 secondary schools), Southeast region in US - Respondents: 1 848 teachers	JEA
Meyer (2002a) US	Theoretical	Changes in organizational thinking about educational systems as formal organizations	JEA
Meyer (2002b) US	Theoretical	The new managerialism in education management	JEA
Murphy et al. (1985) US	Theoretical	Comparison between loosely coupled, average, schools and tightly coupled, effective, schools	hand search
Ogawa and Scribner (2002) US	Theoretical	Revisiting the concept of loose coupling	JEA
Orton and Weick (1990) US	Theoretical	Reconceptualization of loosely coupled systems	hand search
Pajak and Green (2003) US	Theoretical	Explores how loose coupling in school organizations serve the purpose of misrecognition and social reproduction	Int. Jour. of Leadership in Education
Pang (1998) HK	Principal component analysis, and LISREL confirmatory factor analysis - Development of School values inventory (SVI)	Final form (III) - 44 aided secondary schools in Hong Kong - Respondents: 554 teachers	JEA
Pang (2003) HK	Factor analysis for confirmation of organizational binding forces	- 44 aided secondary schools in Hong Kong - Respondents: 554 teachers	Web of Science
			Continues

Pang (2010) HK	Second-order factor analysis - SVI - Teachers' school life Questionnaire (TSLQ)	-39 secondary schools in Hong Kong -Respondents: 1 395 teachers	ERIC
Rowan (2002) US	Theoretical	Comment on using the coupling metaphor to understand educational organizations	EBSCO
Shen *et al.* (2016) US	Stratified survey design - Variables of the School and Staffing Survey (SASS) 2003-2004	-Sample of 39,330 public school teachers and 8140 public school principals/schools	EMAL
Tyler (1987) AU	Theoretical	Structuralist approach for addressing the ambiguities of loose coupling model	hand search
Vuori (2015) FI	In-depth interviews	- 15 line managers in Finnish universities of applied science	EMAL
Weick (1976) US	Theoretical	Focus on the concept of loose coupling	EBSCO
Willower (1981) US	Theoretical	Analysis of the concept of loose coupling with philosophical viewpoint	hand search
Yair (1997) IL	Comparison of statistical tools - Descriptive statistics - Smallest space analysis - Variance component model	- 35 public elementary schools in Jerusalem - Respondents: 353 teachers	JEA

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