Schools’ absorptive capacity to innovate in health promotion

Marthe Deschesnes
Développement des Individus et des Communautés,
Institut National de Santé Publique du Québec, Québec, Canada, and
Département de Médecine Sociale et Préventive, Université de Montréal,
Québec, Canada

Nathalie Drouin
Département de Management et de Technologie,
Université du Québec à Montréal, Québec, Canada, and

Yves Couturier
Département de Service Social, Université de Sherbrooke, Québec, Canada

Abstract
Purpose – A comprehensive “health promoting schools” (HPS) approach is advocated by the World Health Organization to foster the health of students. To date, few studies have evaluated schools’ capacity to implement it in an optimal way. The purpose of this paper is to present a conceptual framework that identifies core features likely to facilitate the incorporation of innovation, such as HPS, into school functioning.

Design/methodology/approach – The framework was built by combining dimensions derived from two major strands of literature, i.e. management and HPS. It has taken root in Zahra and George’s model of organisation absorptive capacity (AC) for new knowledge but has been adapted to better explore AC in a school context. The contrasting cases of two secondary schools that adopted a HPS approach in Quebec, Canada, for at least three years were used to illustrate the value of the framework.

Findings – The framework proposed is a multidimensional model that considers components such as modulators, antecedents, integration mechanisms and strategic levers as potential determinants of AC, i.e. acquisition, assimilation, transformation and exploitation. The conceptual framework helped to qualify and compare AC regarding HPS in the two cases and holds promise to appreciate mechanisms having the greatest influence on it.

Originality/value – The framework can serve as a conceptual guide to facilitate the absorption of innovation in schools and to design future empirical research to better understand the underlying process by which schools strengthen their capacities to become settings conducive to the health of youth.

Keywords Absorptive capacities, Innovation, Healthy school, Conceptual framework, Case study, Schools, Health care, Canada

Paper type Conceptual paper

Introduction
Schools are organisational settings that can have a great impact on the health and emotional well-being of children and adolescents as they influence them at important stages in their lives (World Health Organization, 2003). The “health promoting schools”
(HPS) concept has been advocated by the World Health Organization (1997) as an effective approach to promote health-related behaviours and well-being among school communities and to contribute to the achievement of equity in health: “A health-promoting school is a school that is constantly strengthening its capacity as a healthy setting for living, learning and working.” Despite the recognised potential of this comprehensive strategy, few studies have evaluated the schools’ capacity to implement it in an optimal way. Because of its multifaceted, integrated and concerted nature, the HPS approach is inherently complex from a practical point-of-view and is a challenge with regard to its incorporation within the core business of schools.

HPS is an innovative strategy that requires substantial change in the way schools and their staff practise school health. This comprehensive strategy is intended to act simultaneously upon key individual and environmental factors of students’ development through a range of actions based on successful practices in health promotion (HP) (Young, 2005). These factors refer to self-esteem, social skills, healthy lifestyles and behaviours, safe and healthy environment, school services and school/family/community links.

In Quebec, Healthy School (HS), an approach equivalent to HPS, is a joint initiative offered since 2004 by the Ministry of Education and the Ministry of Health and Social Services. It combines educational and health concerns through the promotion of educational achievement, health and well-being central to the school’s educational project and success plan (Martin et al., 2005). Schools willing to implement the approach have been assisted by designated regional and local agents. Previous findings on factors helping or hampering the dissemination and adoption of HS in Quebec exposed tensions between its receptivity in terms of principles and its feasibility in an environment already under pressure (Deschesnes et al., 2010a). The results shed light on the crucial role of the organisational context as an essential condition for the adoption of this innovative approach. For example, numerous competing interventions in health and education are offered to schools, sometimes in the form of ministerial directives, and resource constraints hampered implementation of the approach despite the schools’ key actors adhering to its foundations (Couturier et al., 2009; Deschesnes et al., 2010b). In this highly solicited school context, some teachers perceive HP as being secondary to academic success, the focus of their teaching mission. Consequently, and as highlighted by various authors in other innovation contexts (Eisenhardt and Martin, 2000; Ronteau and Durand, 2009), the organisation’s challenge is to make room for innovation, create space for experimentation and implement new ways of doing things, while maintaining the efficiency of its operating system. This aspect appears vital in the present context, where new knowledge regarding HP must be incorporated into the schools’ standard operations, which are more focused on student instruction and competencies.

Consequently, a better understanding of how to build schools’ capacity to integrate innovative interventions, such as HS, into their functioning appears essential to improve their potential of becoming healthy settings for children. Our premise is that strengthening the schools’ capacity to implement new interventions such as HS more efficiently will likely improve the health and well-being of all youth. Up to now, few studies have investigated organisational change in the context of HP, although different authors have acknowledged it as an essential condition for effective implementation (Heward et al., 2007; Rowling and Jeffreys, 2006; Viig and Wold, 2005).
Objectives
This paper aims to provide an exploratory framework that identifies the essential features of school capacity that can likely facilitate the incorporation of innovation into their functioning. A multidimensional framework is constructed by combining core dimensions derived from two major strands of literature. To give a more concrete appreciation of the framework, we illustrated it by considering two contrasting schools that adopted HS for at least three years.

Research methods
The study was performed as a two-step process. Step 1 explored a theoretical corpus on organisational capacities from the literature on change management, which represents our conceptual lens. Previous results on the dissemination and adoption of HS in Quebec (Deschesnes et al., 2010b) and a literature review on comprehensive school approaches (Simard and Deschesnes, 2011) helped us to select the framework components that seemed most relevant to the school context. Step 2 used available data from a multiple case study of eight schools that were early adopters of HS. The objectives of that primary work were to describe the way schools implemented HS and to document the conditions that influence it (Couturier et al., 2009). From that data set, we undertook additional in-depth analysis of two cases to explore the relevance of the conceptual framework and to specify the influence of some mechanisms on the schools’ capacity to incorporate an innovation, such as HS. The strategy was to choose two contrasting schools to examine the dimensions that come into play when dealing with HS implementation and to explore the differences between the schools considering these dimensions. The two schools were selected from a classification of eight schools based on criteria that define the planning process recommended to implement HS. These criteria are:

- the creation of a multidisciplinary team;
- a comprehensive vision of students’ health and well-being;
- a joint assessment of students’ needs and their environment that reflect a comprehensive health approach;
- a priority setting based on reflexive analysis of existing actions and successful practices in HP;
- the integration of actions selected in the success plan; and
- the implementation of selected actions (Martin et al., 2005).

The criteria were tracked in data from each of the eight cases and rated on a three-point scale: 1 – not found or very few examples; 2 – some examples; and 3 – many examples.

The assessment was conducted independently by two researchers involved in the primary work. Schools with the lowest (9/18) and highest (15/18) scores were retained for the present analysis. Both cases are public secondary schools of approximately the same size (1,000 students), from the same peripheral region and disadvantaged areas – i.e. with the same socio-economic index (Ministère de l’Éducation, 2003), but linked to different school boards.
Data collection
Collection methods refer to those from the primary work and include semi-structured interviews with key informants and documentation. Individual interviews were conducted with ten key informants, five in each school (i.e. school director, member of the HS committee, teachers and local advisers designated to support HS implementation in schools). They were selected on the basis of their strategic positions in regard to HS implementation in school. The interview guide was constructed to cover subjects in four general areas:

1. participants' viewpoints about HS;
2. participants’ understanding and concrete experiences with regard to HS implementation in schools;
3. participants’ experiences with training and technical support offered for HS implementation; and
4. participants’ viewpoints about conditions that have facilitated or impeded HS implementation in schools.

Confidentiality was guaranteed to key informants. Interviews were recorded and transcribed verbatim. “Documentation” refers to the success plan, school annual reports, minutes of meetings and documents related to success plan assessment, training and tools developed or provided to the HS team to guide and support HS implementation during the period 2005-2009. The orientations and priority given to HP activities in the schools’ documentation, particularly in linkage with the success plan, the nature of activities (e.g. multi-level, integrative and corresponding to successful practices in HP), their feasibility and sustainability, and the actors involved, were analysed.

Data organisation and analysis
Relevant parts of the data were coded according to core dimensions of the conceptual framework. Data from each source and method were organised separately for each school to explore systematically the interrelationship between dimensions. To compare the dimensions and empirical findings from the two cases, we produced a thematic summary table for each of them. Though coding relied mainly on categories of the conceptual framework, we remained open to emerging and recurring sub-themes related to specific contexts. The following procedures were applied to increase validity of the findings:

- data source triangulation to verify data interpretation stability throughout situations; and
- investigator triangulation, i.e. interpretation, confrontation (Miles and Huberman, 2003; Silverman, 1993).

In the next sections, we present the conceptual framework, followed by an illustration of its core dimensions based on the two contrasting cases.

Theoretical background and conceptual framework of schools’ absorptive capacity (AC)
From the literature, we identified core organisational attributes and mechanisms that could enable an organisation to maximise its performance and to innovate. Through
this review, one construct from the management field appeared particularly relevant to HP in schools – AC. This construct shares similarities with the capacity-building concept in HP, which is a process that fosters knowledge, skills and resources to render individuals, organisations and communities more competent to take action on health and development issues (Hawe et al., 2000; Joffres et al., 2004).

The underlying foundation for the conceptual framework takes root in Zahra and George’s (2002) model of the organisation’s AC for new knowledge. These authors define AC as “a set of organisational processes and routines by which firms acquire, assimilate, transform and exploit knowledge to produce a dynamic organisational capability” to create new benefits. We used the four dimensions proposed by Zahra and George to describe AC, i.e. acquisition, assimilation, transformation and exploitation, which are divided into two subsets, i.e. potential and realised. Potential absorptive capacity (PAC) refers to acquisition and assimilation and reflects the receptiveness of an organisation to external knowledge. Realised absorptive capacity (RAC) includes transformation and exploitation. The distinction between PAC and RAC offers the possibility of qualifying the AC level of schools regarding an innovation, such as HS.

A systemic perspective is retained to study the schools’ AC for a comprehensive HS approach, as many levels, from the national all the way to schools, are known to influence the adoption and implementation of this type of approach (Deschesnes et al., 2010b; Inchley et al., 2007; Turunen et al., 2006; Viig and Wold, 2005; Wimbush et al., 2007). Figure 1 illustrates the proposed framework. Following the perspective of Zahra and George, it suggests that the development of schools’ AC is contingent on a variety of components, such as internal and external modulators, that induce or intensify organisational efforts to seek external knowledge. Antecedents are another component that include access to an external knowledge source, the AC of its members, the organisation’s prior knowledge basis and experience (Zahra and George, 2002). The

![Figure 1. Potential and realised absorptive capacities](Image)
framework also highlights that AC is anchored in schools’ integration mechanisms, activated by four interlocked levers that are strategic in nature. The latter components extended the social integration mechanisms from Zahra and George’s model to include dimensions that seem important from our studies on HS and from the literature on comprehensive HS approaches and change management.

The first PAC, acquisition, refers to new knowledge that enters the school. According to Zahra and George (2002), acquisition relies on the organisation members’ capacity to appreciate and locate new knowledge in the external environment and to acquire it. Assimilation is the second potential capacity that supposes not only the acquisition of new knowledge but also an understanding of its foundations and potential use as it relates to the organisation’s goals. Moreover, the knowledge acquired in a school by a few key actors still needs to be shared on a larger scale and to be assimilated for potential change at the organisational level. Assimilation involves the development of shared understanding at the group level, through interaction and internalisation of this knowledge at the organisational level (Rashman et al., 2008).

It is assumed that an organisation cannot apply external knowledge without acquiring it (Zahra and George, 2002). Although PAC supplies strategic flexibility to the organisation to adapt to its environment, it does not guarantee the exploitation of new knowledge. RACs are those that will allow schools to optimise acquired and assimilated knowledge, by combining it with existing knowledge, or to transform it into new practices or resources. Ultimately, these new resources must be incorporated into the everyday operations of schools, ensuring the durability of changes being brought in, which corresponds to exploitation. In this case, changes go beyond cognitive structures and translate into modalities and practices that are renewed within the organisation.

Modulators
In their model, Zahra and George propose the term “activation triggers” to describe internal and external events that induce a firm’s effort to seek external knowledge. In the context of HS, triggers but also moderators that reduce the school’s effort to seek and acquire new knowledge are to be considered.

Antecedents
What will bring the organisation to acquire new knowledge depends first and foremost on antecedents, such as the availability of new external knowledge (e.g. HS), illustrated in our framework by stars; the compatibility between external sources and previous knowledge; the AC of its members, what they already know; the organisation’s prior experience, their ability to appreciate and understand new knowledge, and their openness to it. To Zahra and George, this implies that the ability to learn – i.e. to absorb external knowledge – depends, to a great extent, on the ability to value new external knowledge, which relies on existing knowledge through which the potential of this new information can be recognised and rendered intelligible in a given context (Cohen and Levinthal, 1990). A closed organisation will be unable to view the environment as a potential source of valid knowledge that can be acquired and incorporated and will thus be limited in its capacity to evolve favourably (Van den Bosch et al., 1999). Most of the literature thus recognises the “path-dependent” nature of ACs (Fosfuri and Tribó, 2008; Todorova and Durisin, 2007). In the context of schools,
success in integrating HP in their core business is determined by the AC of their members, i.e. their basic knowledge and openness regarding new knowledge in health and HP to be able to appreciate and understand it. Moreover, if joint working is rare among teachers, schools might have more difficulty in adopting an intervention based on this mode of action.

Integration mechanisms
We retained six main integration mechanisms that can enable individuals in the organisation to absorb external knowledge that will increase its know-how stock. The presence of boundary spanners, i.e. people who are always on the lookout for new knowledge, is one of the mechanisms (Cohen and Levinthal, 1990). These actors acquire and translate new knowledge in an understandable way, thus enabling its assimilation within the organisation. In addition to these agents, the presence of internal communication channels and formal and informal networking also represents organisational assets that allow various types of expertise and skills to be acquired, shared and transformed, through dynamic interactions and networks (Heward et al., 2007; Jones, 2006). The diversity of expertise and knowledge thus offers the possibility of generating new ideas (cross-fertilisation) and improving the way things are done within the organisation (Boland and Tenkasi, 1995; Cohen and Levinthal, 1990; Todorova and Durisin, 2007). The literature also shows that incorporating new knowledge requires human capital having the skills to assimilate and exploit it (Elliott et al., 2003; Heward et al., 2007; Hoyle et al., 2008). In this regard, professional development represents another mechanism that can help expand acquired knowledge as well as the staff’s capacity to absorb new information (Silins and Mulford, 2002). Active participation by staff members and joint working within this process of knowledge-sharing and interpretation, relating to organisational routines, is therefore necessary, since it is through interaction with others that individuals explore and generate new ways of using or configuring certain resources (Rashman et al., 2008). These mechanisms offer opportunities to share new knowledge, to make sense of it, and to better understand how it can be used to renew and improve health practices in schools.

Strategic levers
Strategic levers are another important category of components. From a literature review, we identified four components that seemed particularly relevant for HS:

1. leadership;
2. learning culture;
3. systemic perspective; and
4. integrative management structure.

These levers are catalysts that build upon each other to activate integration mechanisms and foster organisational change and evolution.

Leadership appears to be crucial to make strategic choices that will support innovation in schools and encourage exploratory learning (Deschesnes et al., 2010a; Hoyle et al., 2008; Inchley et al., 2007; Mikhailovich et al., 2007; Viig and Wold, 2005). The role of top managers (e.g. school principals) is particularly important in
understanding the infrastructure needed to support innovation, by facilitating participation and teamwork, by encouraging professional development and trust, and by creating opportunities to experiment in line with organisational needs and innovation (Silins and Mulford, 2002; Teece, 2007; Zahra et al., 2006). Reconfiguring knowledge raises the issue not only of participation and collaboration, but also of power, negotiation and compromise within these processes. Leadership is important here for clarifying the organisation’s goals regarding the values associated with new knowledge and for fostering a shared culture relative to these values (Pablo et al., 2007).

Another lever is learning culture, which emphasises the openness to explore new knowledge in relation to working practices, through dialogue, collective reflection and experimentation (Jerez-Gómez et al., 2005; Senge, 1990; Silins and Mulford, 2002). This mechanism is closely related to the previous one. Leaders of the organisation must encourage a continuous learning culture where the relevance of available knowledge can be assessed. A learning culture emphasises a climate of openness that encourages debate and challenges to certain ways of doing things as well as creativity. The costs that inevitably result from innovation and resource reconfiguration can be reduced if there is an internal regulation pattern that allows the organisation to regularly adapt its standard operations to the environment’s new requirements (Davidson and Hyland, 2006; Zahra et al., 2006).

A systemic perspective is necessary when knowledge becomes more complex, as is the case with HS. Organisations need to understand the interconnection between different content areas of knowledge to determine the best way to integrate new knowledge into their system and to make all parts of the organisation work together in a coordinated manner (Jerez-Gómez et al., 2005).

Integrative management is a lever that is strongly associated with leadership and systemic perspective. It accentuates the process that facilitates exchanges between units and the overall coordination of actions to be undertaken within organisations (Jerez-Gómez et al., 2005). Therefore, sharing mechanisms need to be established within the organisation if the knowledge acquired by certain key actors (boundary spanners) is to be discussed and shared efficiently with those who can transform and exploit it (Fosfuri and Tribó, 2008; French et al., 2009; Lane et al., 2006). Efficient absorption requires a common language and shared cognitive structures that facilitate mutual understanding and the transfer of individual knowledge at an organisational level (Fosfuri and Tribó, 2008; Lane et al., 2006; Van den Bosch et al., 1999). Various authors also highlight the importance of aligning innovation with the organisation’s strategic issues, through a process of construction of meaning and legitimisation (Cepeda and Vera, 2007; Ronteau and Durand, 2009). A shared understanding of the organisation’s vision, goals and values can provide a rationale for action, so as to generate and legitimise alternative strategic initiatives. The risks of dysfunction would thus be lower if there were a shared understanding of the ultimate goals and of how they can be achieved (Langley and Denis, 2008).

Integration mechanisms and strategic levers are considered as components that may help to reduce the gap between PAC and RAC. This is important, as certain organisations can be very good at acquiring and assimilating new knowledge but not as effective in translating it into innovative practices (Baker et al., 2003). However, PAC alone do not guarantee its exploitation, that is to say, its translation, within the
organisation, into innovative practices and actions, which are needed to bring added value to desired changes.

**Illustrative cases**

In the present context, the outcome of interest is the schools’ PAC and RAC for HS knowledge, which corresponds to a concerted planning process, i.e. a device recommended to support individual and environmental changes to improve the health and well-being of students and school community members (Elliott et al., 2003; Green and Kreuter, 1999; Heward et al., 2007; Joffres et al., 2004). As described before, in the perspective of HS, the planning process includes a series of steps, such as the creation of a multidisciplinary team, a comprehensive vision of health, a needs assessment, a priority setting based on reflexive analysis of existing actions and successful practices in HP, a comprehensive action plan and the implementation of selected actions (Martin et al., 2005). The planning process intends to facilitate, for various school stakeholders and community partners, a common understanding of the school’s needs and the actions to be undertaken, based on a comprehensive analysis of the school community and successful practices in HP. An intermediate success indicator of the planning process is the integration of objectives, actions and resources for addressing the priorities identified into the school success plan, with a comprehensive view, i.e. acting on several key factors (e.g. social skills, healthy lifestyles), at many levels (individual and environmental). PAC and RAC of the two cases are outlined in Table I. After this, key findings from analysis of the two cases are presented in terms of the framework’s components.

**Absorptive capacities**

Regarding PAC, both schools have shown some traces of knowledge acquisition and assimilation related to HS, although knowledge was not assimilated with the same intensity and not used for the same purpose in each case. In terms of RAC, optimisation was reported in case A relative to the way an action plan should be implemented and to the inclusion of health objectives in the plan. However, few transformations were seen in both cases in regard to the ways schools practice HP. Both schools concentrated their health-promoting activities on lifestyles by targeting the school environment (e.g. cafeteria and sports equipment linked to healthy lifestyles). They mentioned very few activities related to the other axes of intervention, such as students’ knowledge and competencies through their curriculum and school/community interactions.

**Case A.** The school showed many traces of knowledge acquisition related to HS. For example, the HS Guide and other tools recommended to support the concerted planning process were present. Knowledge from local advisers was also taken in and assimilated by key actors through the planning process. The global planning process proposed was thus carried out, with its reflexive, concerted perspective as well as its steps. In interviews, respondents spoke extensively about the way they used it. A committee to implement HS was therefore formed; it included various members of the school community to ensure a diversity of viewpoints and thus take into account the global dimensions of health. The planning process was conducted rigorously and systematically. A socio-sanitary portrait of the school was developed with tools from Quebec’s New Approaches, New Solutions (NANS) intervention strategy that were already available in the school (Janosz et al., 2010). The portrait was developed
### Table I. Potential and realised absorptive capacities of cases A and B

<table>
<thead>
<tr>
<th>Cases</th>
<th>Acquisition</th>
<th>Potential capacity</th>
<th>Realised capacity</th>
<th>Exploitation</th>
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<tbody>
<tr>
<td>A</td>
<td>HS knowledge acquired by the School Director and other champions in the school&lt;br&gt;Presence of technical resources, e.g., HS Guide and other tools&lt;br&gt;HS knowledge (from training and networking with local advisers)</td>
<td>Internalisation (good understanding) of the HS planning process. For example:&lt;br&gt;- multidisciplinary team with good understanding of HS perspective&lt;br&gt;- use of HS Guide and comprehensive tools for needs assessment and priorities setting&lt;br&gt;- good understanding of the comprehensive approach and reflexive thinking about the action plan&lt;br&gt;No internalisation regarding actions selected on the basis of best practices in HP</td>
<td>Favour only one committee to address multiple issues that affect students’ health and school success (coordination)&lt;br&gt;Planning is more reflexive and rigorous&lt;br&gt;Incorporation of HP activities in the school success plan&lt;br&gt;Use of the school success plan to evaluate and follow-up the implementation of actions&lt;br&gt;Effort to innovate and offer healthy food and more physical activities during lunch time for students but also for teachers and staff (youth participation in cafeteria menus)</td>
<td>Changes observed are not yet incorporated in routines</td>
</tr>
<tr>
<td>B</td>
<td>Presence of technical resources, e.g., HS Guide and other tools&lt;br&gt;HS knowledge from training by local advisers</td>
<td>Team members with limited focus: “physical activities oriented”&lt;br&gt;No global and integrated vision of students’ needs&lt;br&gt;No reflexive thinking about the action plan&lt;br&gt;HS is more a label than a process to improve health practices in school (serves to legitimise existing activities)</td>
<td>Functioning does not reflect a concerted and reflexive planning process to address students’ needs (e.g., physical activities retained are added without questioning their benefits for students)&lt;br&gt;Functioning does not alter the way the school intervenes in HP (activism)&lt;br&gt;Vision is not comprehensive except for some link between physical activity and diet</td>
<td>Positive change No change</td>
</tr>
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following thoughtful questioning, to bridge the gap between current and desired situations, in view of meeting students’ needs. Actions were selected according to the portrait and youths’ priority needs, but not based on best practice tools for choosing actions. According to the respondents, the tool designed for this purpose was not available when the committee made its selection. The results show that this school acquired HS knowledge and that a core group of “champion” actors assimilated it well. However, assimilation on a larger scale, among all members of the teaching community (teachers, parents, non-teaching professionals), still appears to be modest.

In terms of RAC, our results disclosed a certain optimisation in this school. For example, some signs were observed regarding the success plan, since it integrates health-promoting actions whose selection was based on needs assessment. The process used to develop the success plan was also more rigorous. However, few transformations in regard to the ways schools practice HP were incorporated in everyday school operations. The brief time period elapsed after the adoption of HS could partly explain this situation as well as the fact that the training and corresponding tools needed to choose concrete activities were not available when the selection was made.

Case B. Evidence of acquisition and assimilation related to the proposed process and the integration of HP in this school’s success plan is far weaker. Although the HS Guide and other tools were consulted by some members of the school and some knowledge was acquired through local advisers, the evidence of assimilation noted in the planning process related to the HS approach was rather mitigated. The school’s administrators state, for example, that they do not need a complex process to know students’ needs, which they believe to be linked to physical activity and diet. This statement indicates that these two themes reflect the administrators’ own values. The school already considered itself a “HS” before the approach was introduced in 2004 because of the emphasis placed on physical activity and diet. According to the school’s administrators, the HS program did not change their objective. The HS committee is not very diversified, consisting of members who are interested in physical activity and sports. Therefore, the perspective is very concentrated and the process followed is not very rigorous, without much global reflection on youths’ needs and without prioritisation of actions based on needs assessment. Here, an HS is a school concerned essentially with students’ physical activities and eating habits. In this institution, HS corresponds more to acquiring the label than a different way of addressing HP in the school context. The HS label seems to legitimise already-implemented healthy lifestyle actions. It is also considered an economical way to meet administrative expectations in terms of accountability. For the school’s administration, HS is also a good way to persuade and mobilise other partners regarding healthy lifestyle activities while filtering certain requests from community organisations. Using HS is then more utilitarian and opportunistic than reflexive and aims to reinforce what has already been accomplished.

Modulators
Cases A and B. Comparison of the two schools showed that many modulators were quite similar for both of them. For example, the promotion of healthy lifestyles among youths could be considered as an activation trigger for the two schools as it encouraged the adoption of HS. “Healthy lifestyles” was a growing priority for the Quebec government at the time we conducted the study. Previous results on the adoption of HS
in Quebec had revealed that schools’ investment in healthy lifestyles had a significant influence on HS adoption (Deschesnes et al., 2010a). External moderators or constraints were also reported in both schools, such as government directives that thwart local initiatives by proposing a multitude of compartmentalised programs.

Case B. In this case, the school board imposed HS tools on its schools to develop their success plan. Although the directive may be considered a positive factor (activation trigger) by some, it was received rather coldly by the school’s principal, as was the guidance offered by the school board.

Examples of internal moderators, also prevalent in both schools, are lack of time and competing work priorities. Respondents mentioned the lack of time available to establish or set up innovative activities, given the numerous priorities. Compartmentalisation of subject matters and of secondary school teachers was also raised in both schools as a constraint to integrative activities.

Antecedents
Cases A and B. Both schools in the study were already committed to promoting healthy lifestyles, even before the government introduced its HS and healthy lifestyles policies. Furthermore, both were already familiar with a planning process, through another global program (NANS), which aimed to reduce dropout rates from schools in underprivileged areas.

Strategic levers and integration mechanisms
Case A. In this school, the principal’s leadership was an important lever, clearly identifying health as a central value. The principal played the role of champion by bringing the school’s key actors to recognise the merits of the approach, to use it for reflecting on actions and to give them meaning, with the objective of having a greater impact on youths’ health and well-being. In that sense, his leadership style was inspirational. The school preferred to set up a single health and well-being committee so as to have a global (systemic) vision, to be able to integrate various issues in the school’s success plan and to use approaches like HS and NANS in synergy. The HS committee’s methods were in line with a collective learning process where members had time to consider needs assessment, reflect on which actions to implement, debate the issue and experiment with certain activities. The committee supported teachers’ initiatives intended to offer healthy food and innovative physical activities, such as step-aerobics sessions on a giant screen. The activity was first offered to girls and subsequently to boys and teachers. HS committee members believe it is important that HS be integrated into the success plan so that it is not perceived as an addition to the workload.

When it comes to integration mechanisms, respondents report good participation within the committee, which is diversified. The process appears concerted and reflexive: “It feels like everyone is involved in what took place from September to December. We question each other, we analyse together”. There is also good collaboration between health professionals (nurse, nutritionist, etc.), principal and teachers. They all say they are concerned with meeting students’ needs. Various forms of communication served to inform personnel and other actors of the relevance of HS (DVD, pamphlet, etc.), therefore communicating the school’s portrait to all teachers. Information was also shared regarding accomplishments, although very informally.
However, HS assimilation by all school members still remains marginal and too limited to the HS committee. Regarding the presence of boundary spanners, respondents identified the school’s principal and a few key actors (teachers, supervisors) as being very active and open to change. The principal said he was very receptive to the guidance offered by local health centres and the school board regarding HS and NANS and turned to them for support in the planning process. Mostly by networking, with the help of advisors, the school was able to acquire and assimilate several pieces of knowledge on HS. These advisors expressed a strong commitment to HS.

Case B. Contrary to Case A, leadership by this school’s principal is rather weak regarding the HS approach, although it does exercise some leadership when it comes to healthy lifestyles. Its leadership is supported by two or three members who share similar values and concerns. There are several compartmentalised committees in the school, which is less conducive to a systemic vision and integrative management. Compared with the other school, the learning culture seems less developed. HP activities in the school are conducted in a rather activist manner, characterised by trial and error relative to physical activity and eating habits. Having a multitude of activities is valued, but without much thought being given to their relevance or effectiveness. For example, the principal said: “We try all kinds of things; if they work, great!”. There are few reports of communication with the rest of the teachers and other stakeholders. According to the respondents, the school did not take the time to present HS to the entire teaching staff and few of them are aware of it. Concerning training and professional development, the principal does not consider the local advisor to be a resource for the school and does not give the person much credit. Furthermore, one key actor of the HS committee mentioned that the advisor has a tendency to be judgemental and promotes a vision that differs from his: “I am tired. I feel a great deal of judgement from his part, all the time”. A high turnover of local guidance personnel does not seem to have helped collaboration in this case. The principal also deplored the fact that the guidance offered is not sufficiently concrete to help schools implement health-promoting actions.

Concluding remarks
In the framework we proposed, management theories, and more specifically Zahra and George’s model of AC, were employed as a foundation to illuminate the key components that could increase the capacity of schools to absorb or incorporate new HP knowledge and practices into their functioning. The conceptual framework considers categories of components similar to those proposed by Zahra and George, such as modulators, antecedents and integration mechanisms, although this last component includes more dimensions from the literature as they appeared to be relevant in the school context. The integration mechanisms retained are presence of boundary spanners, internal communication, networking, professional development, active participation of school community members and joint working. Moreover, the model includes four interlocked levers that are strategic in nature, i.e. leadership, learning culture, systemic perspective and integrative management, which act as catalysts to activate the six integration mechanisms.

Although the empirical data at our disposal are limited to a relatively short observation period for this type of innovation, we were able to explore the relevance of the conceptual framework, which highlighted certain conditions that may have
influenced the HS AC levels of both schools, and to qualify each one’s level of PAC and RAC. In School A, two interrelated mechanisms appear to have impeded the development of RAC despite the presence of PAC. First, internal communication seemed insufficient as only a few champion individuals had a deep understanding of HS and were part of the process. The HS approach was not anchored at the bottom staff level. This can be an important barrier as knowledge-sharing and the distribution of expertise among different units within an organisation appear to be an essential condition for AC (Jerez-Gómez et al., 2005; Lane et al., 2006; Van den Bosch et al., 2003; Zahra and George, 2002). While co-operation between teachers and other professional actors was good, and experimentation valued, concrete integration of HS in the whole school setting was still limited, likely because of time constraints. Second, training and tools, while considered useful for the planning process in general, appeared insufficient and not concrete enough to be easily brought into practice in regard to the selection of actions and the way to implement them.

However, the presence of many strategic levers and some integration mechanisms in School A could be an advantage in the longer term. Therefore, the following organisational assets would likely reinforce the school’s RAC: leadership by principal supporting the underlying values of the HS approach:

- a learning culture conducive to dialogue, experimentation and reflection;
- integrative management that values the integration of issues and approaches; and
- networking, particularly with local HS advisors, which would allow access to and sharing of knowledge concerning HS.

As far as School B goes, HS acquisition and assimilation is clearly weaker, as are the integration mechanisms. Therefore, internal communication regarding the HS approach, professional development and dialogue are limited to the people involved in the physical activity field. Furthermore, contrary to School A, we did not find the presence of levers likely to favour HS ACs in the longer term. One integration mechanism that appears problematic in this case and which merits attention, as it is more amenable to change, is training. Professional development has been extensively mentioned as an essential condition to implement HS (Eriksson et al., 2010; Mikhailovich et al., 2007). As acquisition happens only after the value of new knowledge is recognised (Todorova and Durisin, 2007; Zahra and George, 2002), professional development is particularly relevant in the present context as it is the privileged way to learn about HS. The data available was insufficient to understand the context regarding the behaviour of the local advisor who was described as “judgemental” and how this behaviour may have hampered the acquisition and assimilation of HS knowledge in that school. Future research should pay more attention to the detailed process of professional development regarding HS and to its influence on school’s PAC.

Making room for innovation encompasses a set of authorised and accepted actions to overcome organisational constraints (Davidson and Hyland, 2006). While the integration mechanisms described above can help to do it and reinforce the AC of schools for new knowledge, the fact remains that certain external modulators can have a major impact on a school’s AC. Schools are not entirely autonomous in terms of their orientation and programming. Government orientations as well as financial and
administrative support have a determining influence on a school’s room to manoeuvre and its capacity to absorb new knowledge (Debowski, 2008). Previous results showed that this support was mitigated, in terms of financial support and concerted support between the two government departments (e.g. multitude of programs offered to the schools with little connection between them; changing priorities) (Deschesnes et al., 2010b). This situation creates a climate of uncertainty and fatigue toward innovation among school actors. In the two cases studied, we found that the time and resources available for experimenting and reconfiguring certain ways of doing things remain problematic. The same can be said for external support, which needs to be more continuous and suitable to the school context. Consequently, support and leadership are also needed from the top and all administrative levels of the two ministries responsible for its diffusion to facilitate the absorption of new knowledge in the core business of schools. From a systemic perspective, it is therefore important that the framework chosen to study a school’s AC consider this level of influence as well.

One limitation of the fieldwork we refer to was the short period of observation. Being collected retrospectively at a specific time, the data were not completely suitable to study the detailed process of HS implementation and the mechanisms that could have the most influence on its incorporation in the long term. Moreover, the data gathered for the purpose of the primary work did not necessarily cover all information needed for a detailed and comprehensive view of the framework’s dimensions.

According to Zahra and George (2002), operational integration mechanisms help potential capacities develop into realised capacities. Because the observation period was too short for the phenomenon studied, the data available do not allow us to verify whether this is the case. First, it is impossible for us to determine whether the potential acquisition and assimilation capacities observed will translate into realised capacities, that is to say, into new practices that are integrated into the school’s standard routines. Consequently, they do not allow us to identify the mechanisms and levers that could have the greatest influence on achieving this transition relative to HS. Future research in other contexts, using longitudinal methods and process design, is then necessary to further validate the framework and better appreciate the evolutive and dynamic nature of AC regarding HS.

Nevertheless, the conceptual framework was helpful to qualify and compare AC regarding HS in the two cases and to appreciate the mechanisms that seemed to have the greatest influence on it, mainly regarding PAC. As mentioned by Meyer (2007), frameworks are thought organisers, devices for packaging complex issues by focusing on certain interpretations over others. Following this perspective, the framework we proposed was illuminating. It can serve as a conceptual basis to design future empirical research to better understand the process of strengthening schools’ capacities to become healthy settings for children.

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**Corresponding author**
Marthe Deschesnes can be contacted at: marthe.deschesnes@inspq.qc.ca

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