

Cultures and Leverages for Nurturing Adaptive Capacities through Curriculum Innovation

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KEY IMPLICATIONS

1. Curriculum innovation is a viable way of developing an adaptive school environment that influences teacher learning, promotes learner capacities, and scaffolds the building and sustenance of student learning and their 21st century competencies including critical and inventive thinking, and lifelong engagement.
2. Through various sociocultural leverages, school leaders can strategize and push for an emphasis on teachers' vital role in not just curriculum and pedagogical change, but also in enabling a shift from focusing merely on the outcomes of high-stakes examination.
3. Curriculum innovation can be a mechanism through which teacher learning takes place. Such learning for teachers is highly contextualized and involves the problematization of pedagogy and classroom practice, which potentially increases teachers' level of professionalism and the quality of their learning experiences at work.
4. Curriculum innovations that target the development of expertise catalyze student capacities and develop their passion in learning while curriculum innovations in contexts without such a focus can at best provide an exposure to new forms of knowledge.

BACKGROUND

The dispositions and skills needed to navigate in the 21st century are significantly different. Schools need to reconfigure curriculum and pedagogy to prepare today's young learners to face and overcome unknown challenges ahead. In fact, researchers have encouraged schools to be more flexible, adaptive and innovative in meeting the demands made by a fast-changing global environment in the 21st century.

One of the key dispositions shown by research to be important in navigating the rapidly changing environment is adaptivity, which is characterized by flexibility, reflexivity and innovativeness (see Garmston & Wellman, 1999; Hung, Lim, Chen, & Koh, 2008 for review). Although adaptivity is the key to maneuvering in today's complex environment, there is limited understanding about the school renewal processes during curriculum innovation that leads to the nurturance of adaptivity. This study seeks to deepen current understanding of how curriculum innovation can develop flexibility and reflexivity in a number of school contexts.

FOCUS OF STUDY

1. To examine the processes and structures that foster the development of adaptivity in schools.

2. To investigate the factors for teacher learning that influence teacher agency and professional growth.
3. To investigate the structures and processes in learning environments that catalyze student capacities leading to the development of expertise.

KEY FINDINGS

The study has found that the institutional process in creating an adaptive culture takes multiple pathways across different contexts. Three institutional processes emerged from our analysis: (a) a design-based process, (b) a needs-based process, and (c) an expert knowledge-driven process. The analysis of the processes of the embedded cases in the three schools showed that curriculum innovation cannot be viewed as mutually exclusive from the contexts. In addition, this study identified five sociocultural leverages that foster the development of adaptivity. These leverages are (a) conceptualizing a curriculum vision, (b) using metalanguage, (c) activating teachers' agentic behaviours, (d) embracing possibility thinking, and (e) building a culture for risk-taking. The above five strategic sociocultural leverages allow school leaders to build adaptive capacity in schools.

This study also identified three elements in the adaptive environment that facilitate teacher learning: (a) providing deliberative spaces that allow for teacher dialogue and experimentation, (b) re-thinking curriculum as a process, and (c) the development of a fluid curriculum. Four factors that enhanced teacher agency and professional growth also surfaced: (a) envisaging a curriculum vision, (b) considering the personal and professional relevance of curriculum innovation to the teacher, (3) seeing the evidence of effectiveness, and (4) providing opportunities for transferability and sustainability.

Student learning experiences as an outcome of curriculum innovation were also documented. It is found that, often, the reasons for innovating curriculum are mainly to stretch and engage students, and this results in some unintended but desirable outcomes that benefit the student. These include the provision and availability of psychological space, mental space and

social space. These spaces in the learning environment encourage adaptivity and help to redress students' self-perceived limitations on academic efficacy.

SIGNIFICANCE OF FINDINGS

The findings highlight how school leaders can lead the change process in the building of an adaptive culture by taking advantage of five useful and effective sociocultural leverages to bring about curricular and pedagogical change. We posit that co-constructing these leverages with teachers during curriculum innovation creates elements such as teacher dialogue that propel teacher learning.

Our study suggests that learning can be crafted to engage the students meaningfully, despite their previous academic standing, as long as there is a good understanding of their strengths and interests. In addition, teacher belief about the students and their potential is critical in creating a learning environment that encourages adaptivity and helps to redress students' notion of self-perceived limitations on academic efficacy.

INFORMANT

A total of three schools participated in the study and those involved included school leaders, heads of department, teachers, and the Secondary One students.

RESEARCH DESIGN

This is a multiple-case that evolved from a single case study with embedded cases in a previous study.

Interview questions were generated from the research literature and the research context, and the interviews and focus group discussions conducted with school leaders, teachers and students were co-generative dialogues (Roth & Tobin, 2005). Classroom observations with self-nominated classes were observed and video-recorded and supplemented by field notes taken by researchers as *in situ* observers. Artefacts on curriculum documents, students' works, journals, exhibits, and school policies were also analysed and used for triangulation of interview transcripts.

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