

Curriculum Innovation and the Nurturing of 21st Century Learners

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KEY IMPLICATIONS

1. Conceptualizing and implementing the Integrated Programme (IP) is high-stake. It is important that policymakers encourage greater dialogue between experts, teachers and students so that both the form and function of the IP can be studied closely to ensure sustainability and meaningfulness of the programme.
2. A well-managed dual track instructional programme within the same school has several advantages. For students, the dual track feature provides opportunities for social integration, and a safety net for those who have difficulties managing their study in the IP. For teachers, there are opportunities for transference of pedagogical practices and improvement in their designing curriculum knowledge.
3. The success in conceptualizing and implementing a differentiated curriculum for high ability learners emerges from change within the school. The key processes of change from within the school include creating opportunities that both deepen teachers' understanding of the learning needs of high-ability learners and that build teacher expertise which harnesses teachers' indigenous knowledge and the

contextual nuances in curriculum design and differentiation.

BACKGROUND

The 21st century workforce requires skills that emphasize creativity, criticality and self-directedness, among many others. This situation requires a radical reconceptualization of educational practices. The implementation of Integrated Programme (IP), which allows students to skip the high-stakes examination at the end of Year 4, aims to focus more on honing 21st century competencies. This study seeks to examine the structures and curriculum processes that broaden the IP learners' educational experiences and nurture creativity, criticality and self-directedness for the 21st century.

FOCUS OF STUDY

1. Examines the contextual structures that shape the conceptualization and implementation of Integrated Programme (IP) in schools.
2. Investigates the processes that drive the development of curriculum and learning experiences for IP learners.

3. Investigates the students' learning outcomes in terms of educational experiences and 21st century competencies such as creative thinking, critical thinking and self-directed learning.

KEY FINDINGS

The study has found that the contextual and socio-cultural elements such as the extant exam culture and the schools' aspiration to create key differences between the two learning pathways (Express & IP) shape the conceptualization and implementation of the IP. However, these elements can also hinder schools from capitalizing on and synergizing with deeper curriculum innovation.

On the other hand, the search for a vision and direction that makes sense for its multiple stakeholders and the debates that ensue also shape the conceptualization and implementation of the IP. While the curriculum drivers are challenged to take multiple risks in order to meet the learning needs of high ability learners, the curriculum space offered by IP can be capitalized and actively leveraged upon for curriculum and pedagogical change.

The analyses show that teacher expertise alone is an insufficient condition to engender the re-culturing of learning and teaching; contextualization of pedagogical practice takes time and great effort, and if successful, can be effective in catalysing teachers' capacity and moderating the momentum of curriculum innovation and change. The efficacy of the IP curriculum, however, is also dependent on teachers' ability to devise a comprehensive plan for curriculum review and refinement.

In terms of student learning outcomes, IP students reported changes in classroom instruction and more opportunities for deeper learning. However, the triangulation of our analyses show that such changed classroom practices happened more in the enrichment rather than the core curriculum. It should also be noted that the intellectual stretching and challenges increase the workload and stress levels of IP students. Although the quantitative measurement scores fall over time in student metacognitive skills and strategies, students

generally reported more awareness of the need for 21st century competencies. Lastly, students showed a larger increase in divergent thinking measures but the effect sizes of critical thinking over time are smaller among IP as compared to Express students.

SIGNIFICANCE OF FINDINGS

The findings highlight how given the interaction between the national and school contexts, it is important to increase schools' appetite for investigating the impact of the IP curriculum. This implies that the IP will be better served when school leaders and curriculum teams sustain both bottom-up and top-down curriculum development.

The study suggests that a clear articulation of the IP curriculum based on the learning needs of the high ability learners requires teachers to have strong knowledge on curriculum design. It is important to create communities within and across schools to facilitate professional conversations to build collective professional capital. Building the capacity to assess, monitor and evaluate the quality of the IP curriculum and programmes will enhance the conceptualization and implementation of the IP curriculum.

Finally, the study points out that countering the extant culture amongst teachers has to come from policymakers and school leaders, and this requires greater professional dialogue and the development of teachers' curriculum expertise.

INFORMANT

A total of three schools participated in this study and the participants included 2013 cohort of Express and IP students, the Principals, middle management and teachers. All data was collected in the first year (2013) and third year (2015) of this study.

RESEARCH DESIGN

This is a mixed methods study employing multiple-case study and maximum variation (Yin, 2009) of informants. The student outcomes are measured quantitatively using four instruments, namely the Watson-Glaser Critical Thinking Appraisal- UK Version, the Wallach-

Kogan Creativity Test, Learning Preference Assessment, and Attitude in Learning. The interviews conducted with school leaders, middle management, teachers and students were co-generative dialogues (Roth & Tobin, 2005). Classroom lesson observations of a range of subjects were video-recorded and supplemented by field notes taken by researchers as *in situ* observers.

REFERENCE

Yin, R.K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage.

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