

Research summary

An exploration of the policy and practice of transdisciplinarity in the International Baccalaureate Primary Years Programme

Summary developed by the IB Research department based on a report prepared by

Susan M Drake PhD, Michael J Savage PhD, Joanne L Reid, Michelle L. Bernard and Jacqueline Beres

Brock University

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Background

The International Baccalaureate (IB) Primary Years Programme (PYP), for students aged 3 to 12, is grounded in a strong transdisciplinary framework based on the work of Ernest Boyer (1995) and others. The framework is holistic in nature, with an emphasis on the whole child and authentic and significant inquiry. While the importance of the disciplines is acknowledged, students also learn the concepts and skills that transcend the disciplines and fall into the transdisciplinary realm.

The purpose of this study was to investigate how PYP teachers, coordinators and administrators conceptualize and apply transdisciplinary approaches to teaching and learning as well as how they balance disciplinary and transdisciplinary learning. A second purpose was to explore PYP teachers', coordinators' and administrators' lived experiences working in the PYP. A deeper understanding of how IB educators are making meaning of, and implementing the transdisciplinary requirement of, the PYP could facilitate some resolution of the tension between disciplinary and transdisciplinary approaches.

Research design

Twenty-four participants were recruited for the study. Participants were evenly distributed between the IB's three geographic regions. Thirteen participants worked at international schools (54.2%), 7 worked at private schools (29.2%) and 4 worked at public schools (16.6%). In terms of their roles, 12 participants (50%) were classroom teachers, 6 participants (25%) were specialist teachers, 4 participants (16.7%) were coordinators and 2 participants (8.3%) were administrators.

Data collection consisted of in-depth interviews with participants through videoconferencing software or over the telephone. Interviews with participants were conducted by one or both of the primary researchers and lasted approximately one hour. The data was analysed using the empirical phenomenology approach. The goal was to comprehend the experience of the participant as it was lived by the individual participant.

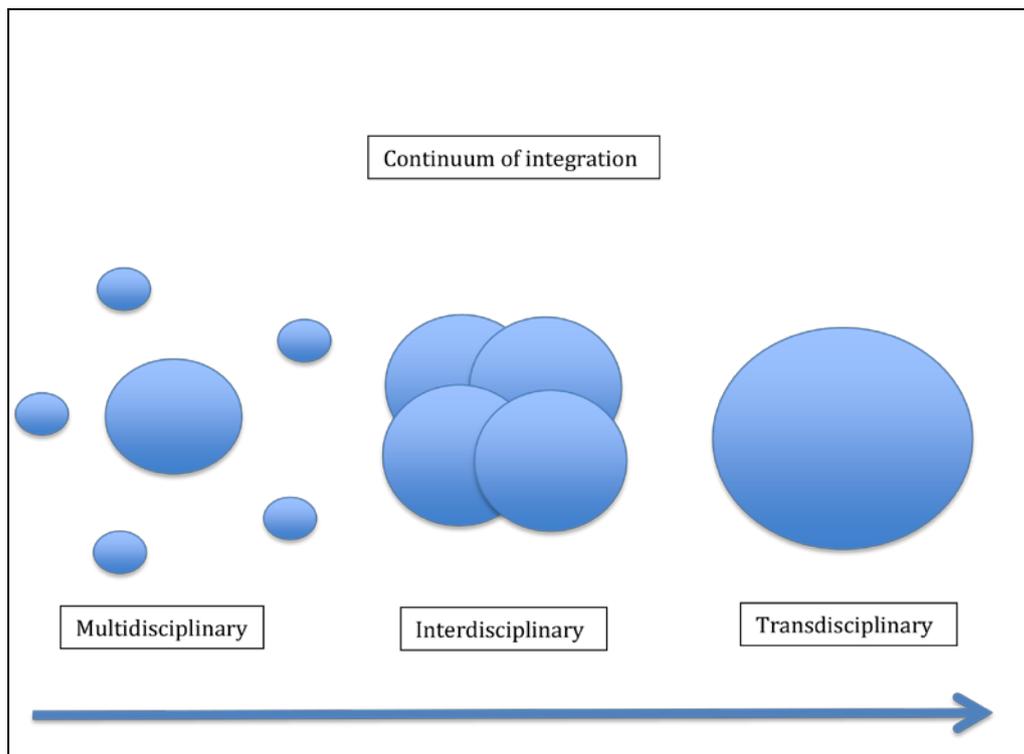
Findings from the literature review

Accountability versus integrated curriculum

The literature review in the full report is set in the context of the call for educational reform in the 21st century. There is an ongoing global tension between the need for accountability through large-scale testing and the pressing need to create a curriculum that will not only engage students but will also facilitate the development of communication, problem-solving, technological literacy, creativity and critical-thinking skills as well as desired values and behaviours.

Curriculum integration: The continuum perspective

Educators define integrated approaches in a wide variety of ways, such as cross-disciplinary, intradisciplinary, fusion, multidisciplinary, interdisciplinary, transdisciplinary or integrated. For many theorists, integration can be seen as a continuum, moving from a disciplinary approach to a highly connected and integrated approach (Daly, Brown and McGowan 2012; Drake 2012; Fogarty and Pete 2009). Figure 1 illustrates this idea of a continuum of integration.



Obstacles to implementing an integrated curriculum

Three obstacles seem to hinder implementation of integrated approaches to learning and teaching. First, there is no common understanding of what integrated approaches look like given the myriad definitions that theorists have put forth. Second, evidence for the success of integrated approaches has been muddled with anecdotal research, testimonies, how-to descriptions and a lack of a solid empirical research. Third, there is a general lack of understanding and knowledge of the long and important history of such approaches.

Conclusion from the literature review

A general conclusion of the literature review is that integrated approaches to curriculum can address the current tension prevalent in educational reform. Research since the 1930s consistently shows that students who experience such approaches are as successful academically, and often more successful, than their counterparts. Furthermore, they develop the skills and values necessary to be successful in a globalized world. Finally, these students tend to be more engaged in school and motivated to learn.

Findings from participant interviews

Three major themes emerged across the lived experiences of the 24 participants. The first theme revolved around the PYP as a framework. The second theme focused on the PYP as collaborative engagement and the third addressed the PYP as a learning journey. Within each theme were a number of categories that made up the theme.

The PYP as a framework

All the participants identified the PYP as a framework¹ that was designed to promote transdisciplinary teaching and learning. The report refers to this theme as "It's a framework, it's a framework, it's a framework!" Within this theme, three main categories emerged from the interviews.

¹ The framework the participants were discussing consists of a number of components that were created to make designing, teaching and instructing in a transdisciplinary way easier for teachers to do. These components are outlined in documents such as *Making the*

- **A framework provides freedom.** Comments from participants pointed to the fact that a framework can be customized to meet individual school needs. Some participants did mention, however, that educators sometimes need more detailed guidance than is currently provided in order to work within this framework.
- **Personal understanding of the framework.** The second category in this theme illustrated how participants interpreted the PYP and all the concepts that are embedded in it. Participants articulated their understanding of transdisciplinary teaching and learning in a multitude of ways, such as: “It means when the curriculum knows no boundaries, which means seamlessly throughout the day, not chopped up lessons [...]”
- **Concept confusion.** Several participants noted that the PYP framework is quite complex and confusing—especially the features that are embedded in it, such as the central idea, key concepts, related concepts, transdisciplinary skills and the IB learner profile. Participants were not always able to provide definitions of these features that were congruent with the IB’s conception of the terms.

The PYP as collaborative engagement

The second major theme that emerged from the participants’ responses was the idea that in order for the PYP to function as a transdisciplinary programme, people needed to “get on board”, as one participant put it. The participants articulated that multiple components need to be in place for transdisciplinary teaching and learning to occur within the PYP. Several categories made up this theme: educator’s philosophy and attitude; administration; timetabling; collaborative planning; PYP planner issues; lack of experience with the PYP, and professional development; parents.

- **Educator’s philosophy and attitude.** Participants shared various perspectives through the interviews, ranging from expressing strong support of PYP approaches to teaching and learning to offering the reservation that learning through inquiry can look “messy”.
- **Administration.** The second category that emerged was administration. Comments from participants revolved around the importance of leadership in understanding how using a transdisciplinary framework for teaching and learning impacts decision-making processes at the school level. Leadership was also described as instrumental to school improvement.
- **Timetabling.** Participants noted that the way the timetable is constructed is often directly related to the underlying philosophy of the school, and especially that of the school administration. Some comments from participants observed that children develop skills over time and that this process does not always fit into a segmented timetable.
- **Collaborative planning.** The majority of participants stated that collaborative planning was essential to transdisciplinary teaching and learning. Participants also noted, however, that collaborative planning is not without its difficulties, for example, the challenges of scheduling meetings and ensuring that the process is equitable and inclusive.
- **PYP planner issues.** In general, most participants stated that they liked the backwards design process the planner promoted. Participants also stated, however, that the planner often becomes an archival document rather than a living document. Most explained that they used the planner as a guide for their planning and then returned to it after the unit was completed to reflect on it. Many participants talked about the need to create their own lesson plans while they were teaching.
- **Lack of experience with the PYP, and professional development.** Participants discussed the challenge of hiring teachers without PYP experience as they tend to be less prepared for transdisciplinary teaching. Professional development was also highlighted as a way of fostering transdisciplinary teaching and learning in the PYP.

PYP happen (IBO 2009). The components consist of three areas: content, skills and attitudes/values (essentially what the students should know, be able to do and be by the end of the programme of study).

- **Parents.** How parents influenced what was occurring in schools seemed to vary by context. In some contexts, parents appeared to be supportive of transdisciplinary teaching, while in other schools participants discussed how they struggled to explain the PYP to parents and to get parents to support transdisciplinary teaching and learning. One participant stated: “We had some confusion from parents but we invite them into the school to see what their kids are doing and we meet with them and answer their questions. It’s been a struggle at times but most parents are supportive now.”

The PYP as a learning journey

Despite some of the issues the participants discussed that made implementing transdisciplinary teaching and learning in the PYP a challenge, they all stated the PYP benefited students and aided them in “their learning journey”. In this theme, three categories emerged from the participants’ responses: rich performance assessment tasks (RPATs); student-directed learning; programme alignment.

- **Rich performance assessment tasks (RPATs).** The participants described significant learning tasks their students had accomplished in “their learning journey”. Many of the participants described these tasks as their best experiences in the PYP and provided them as exemplars of transdisciplinary teaching and learning.
- **Student-directed learning.** Many participants talked about student-directed learning being the epitome of transdisciplinary teaching and learning and a goal they were striving to do more of in the classroom.
- **Programme alignment.** Participants, particularly at schools that implemented more than one IB programme, talked about the alignment between the PYP, Middle Years Programme (MYP) and Diploma Programme (DP). They discussed several aspects of this alignment, particularly curricular alignment and alignment of the programme approaches. For example, one participant stated: “So getting our standards and benchmarks sorted and making sure they are aligned with the middle school and high school programmes is a priority”. Another highlighted the challenge of different programme philosophies: “PYP is transdisciplinary, MYP is interdisciplinary, DP is more disciplinary”. Despite the perceived lack of alignment, participants discussed how they believed the IB was actively making changes to the programmes so they would align better.

Recommendations

Researcher recommendations were based on the literature review, the results of the study and an analysis of the PYP documents. For a complete list and description of the authors’ recommendations, please see the full report.

- Keep transdisciplinarity as a philosophical direction (and its underpinnings such as constructivism, holistic education, student-centred learning, international-mindedness and the IB learner profile).
- Consider guidance on structuring the use of time so that inquiry-based learning happens in blocks of uninterrupted time on a regular basis and is ongoing during units of inquiry.
- Keep collaborative curriculum planning. Involve all teachers equitably in this planning.
- Include the IB learner profile in backward design planning so that this is a conscious part of the teaching and learning.
- Integrate assessment seamlessly within curriculum and instruction by focusing on creating rich performance assessment tasks for students to demonstrate their learning and to create an engaging and rigorous curriculum.
- Consider integrating technology into instruction and assessment, provided that the technology enhances learning.

References

- Boyer, E. 1995. *The Educated Person*. The 1995 ASCD Yearbook.
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- International Baccalaureate Organization. 2009. *Making the PYP happen: A curriculum framework for international primary education*. Cardiff, Wales. IBO.

This summary was developed by the IB Research department. A copy of the full report is available at <http://ibo.org/en/about-the-ib/research/>. For more information on this study or other IB research, please email research@ibo.org.

To cite the full report, please use the following.

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