



Primary Years Programme

Monograph

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The origins of the PYP

The Primary Years Programme (PYP) of the International Baccalaureate Organization (IBO) has been developed as a result of the vision and the effort, sustained over the last ten years, of the former International Schools Curriculum Project (ISCP).

The ISCP was an independent, grass-roots movement of school teachers and administrators in international schools. Its purpose was to produce a common international curriculum, and to develop an international mindedness on the part of the children in those schools, in the belief that the nature and quality of children's learning were the means of promoting that awareness and sensitivity.

The philosophy and curriculum framework of the PYP are described in the volume, *Making the PYP happen*, published by the IBO in September 2000. In addition, the following supporting curriculum documents have been published:

- a sample programme of inquiry indicating transdisciplinary units of inquiry which are articulated across and throughout the age ranges within 3 to 12 years
- draft syllabuses (scope and sequences) for each PYP discipline, including languages, mathematics, arts, social studies, science and technology, and personal, social and physical education
- guidelines for the PYP in the early childhood years (3–5 years)
- guidelines for the PYP exhibition—a culminating project demonstrating the child's engagement with the programme
- the PYP assessment handbook.

The PYP promotes the construction of knowledge

The philosophy and practices of the PYP have been substantially influenced by the explicit acknowledgment that the learner constructs models of understanding based on personal experience. Vygotsky defined learning as “the creation of meaning that occurs when an individual links new knowledge with...existing knowledge” (Williams and Woods, 1997). The PYP stresses the importance of determining the existing knowledge that the child brings to new experiences, provided through the curriculum and through the environment in which the learning takes place (Figures 1 and 2). The teacher is expected to explore the children’s understanding in order to provide appropriate experiences that will allow them to make connections between their previous and current perceptions. The children are given the opportunity to test and refine their understanding.

When introducing a unit of inquiry on “The family” to five year olds, the teacher requests that the children bring albums, photographs and other family artifacts into the school. These are shared and discussed with other class members in a series of activities in which the teacher establishes and consolidates what the children already know about themselves and their families. This is the beginning of learning about other people’s families. The teacher invites the children to ask questions which intrigue them about other people’s families. While these questions will be real and relevant, in that they come from the children, the skilled teacher will model the asking of guiding questions, which will extend the inquiry, to include more substantive and significant issues, such as why people need a family or why some people have extended families. These issues will provide the lines of inquiry, planned by the teacher to be challenging and engaging, which will be pursued in depth throughout the unit.

Figure 1

When introducing a unit of inquiry on “Taking care of myself” to eight year olds, the teacher asks the children to make a drawing showing what happens to food as it travels through the body. They are asked to label any body parts they know and to write an explanation of what happens to the food. The teacher uses these drawings and explanations to assess the levels of knowledge, of understanding and misunderstanding within the group. The teaching can then be planned effectively to meet the needs of the individuals within this group.

Figure 2

Other theorists, including Bruner and Gardner, have argued that the focus of teaching curriculum content needs to change to enable teachers to make connections between learners’ existing knowledge and their individual styles of learning in the context of new experiences. The PYP addresses this challenge by providing opportunities for children to build meaning and refine understanding, principally through structured **inquiry**. In PYP schools, the teacher’s structuring of new experiences, and support of children’s ideas of new experiences, are fundamental to the process of incremental growth of knowledge and formation of concepts.

The PYP emphasizes that children’s learning, and their attempts to make the world around them understandable, are essentially social acts of communication and collaboration.

The PYP emphasizes the importance of children making connections between their experience and the incremental pieces of new information they encounter. The programme supports the child’s struggle to gain understanding of the world and to learn to function comfortably within it, to move from not knowing to knowing, to identifying what is real and what is not real, to acknowledging what is appropriate and what is not appropriate. To do this the child must integrate a great deal of information and apply this accumulation of knowledge in a cohesive and effective way.

The PYP promotes inquiry as a pedagogical approach

Inquiry, as the leading but not exclusive pedagogical approach of the PYP, is recognized as being intimately connected with the development of children's comprehension of the world. The inquirer stands at the "border of knowing and not knowing" (Wells Lindfors, 1999).

Inquiry, interpreted in the broadest sense, is the process initiated by the learner or the teacher which moves the learner from their current level of understanding to a new and deeper level of understanding. This can mean:

- exploring, wondering and questioning
- experimenting and playing with possibilities
- researching and seeking information
- collecting data and reporting findings
- clarifying existing ideas and reappraising events
- deepening understanding through the application of a concept or rule
- making and testing theories
- making predictions and acting purposefully to see what happens
- elaborating on solutions to problems.

Inquiry involves an active engagement with the environment in an effort to make sense of the world, and consequent reflection on the connections between the experiences encountered and the information gathered. Inquiry involves the synthesis, analysis and manipulation of knowledge, whether through play for younger children or through more formally structured learning in the primary years.

In the PYP, a programme for children aged from three to twelve years, the lively, animated process of inquiry appears differently within different age ranges. The developmental range evident in a group of five year olds, which can often be from three to eight years, demands that the teacher be a careful, thoughtful participant in, and monitor of, the ongoing exploration and investigation that the children engage in or initiate. The programme provides guidelines for the teachers of young children concerning the role of the environment in presenting surprises to the children, for them to wonder at and be curious about, and to stimulate purposeful play.

The PYP recognizes many different forms of inquiry based on children's genuine curiosity and on their wanting and needing to know more about the world. It is most successful when children's questions are honest and have real significance in moving them in a substantial way to new levels of knowledge and understanding. The PYP states that the most penetrating questions, ones most likely to move the child's understanding further, come from existing knowledge. The structure of the learning environment, the home, the classroom, the school, the community, and the behaviour modelled by others in that environment, particularly the parent and the teacher, will lay down the knowledge base that will nurture meaningful participation and inquiry on the part of the child.

An explicit expectation of the PYP is that successful inquiry will lead to responsible **action**, initiated by the children as a result of the learning process. This action may extend the child's learning, or it may have a wider social impact, and will clearly look different within each age range (Figure 3).

A six-year-old child might spontaneously bring an item, such as a favourite book, to school as a prompt to continue a discussion, to illustrate a previous inquiry or to broaden the scope of an ongoing investigation. An eleven-year-old child might decide to form a welcome group to look after new children who enter during the course of the year, to reduce their isolation and to help them feel more comfortable in their new environment.

Figure 3

The PYP creates a concept-driven programme

The PYP is a programme which emphasizes meaning and understanding, and great importance is attached in all areas of the curriculum—the written, the taught and the assessed components—to the exploration of a core set of concepts:

- **Form:** What is it like?
- **Function:** How does it work?
- **Causation:** Why is it like it is?
- **Change:** How is it changing?
- **Connection:** How is it connected to other things?
- **Perspective:** What are the points of view?
- **Responsibility:** What is our responsibility?
- **Reflection:** How do we know?

These concepts are important for two reasons. Firstly, they provide consistency between PYP schools, in which all students are working towards an understanding of these concepts. For example, “What are the points of view?” expands the thinking of the students in all PYP schools so that they take that essential first step in developing international awareness and the willingness to consider another’s perspective. Secondly, they have relevance in all the traditional subject domains and influence the planning and delivery of the entire programme. They therefore provide one of the most significant transdisciplinary elements in the programme.

Expressed as open-ended questions, they provide the initial momentum and the underlying structure for the exploration of the content of the whole programme. These questions form a framework to which teachers can refer during the process of collaborative planning which is required by the PYP. They focus the teachers’ thinking as they generate guiding questions specific to particular content, whether it be subject specific or related to transdisciplinary themes (Figure 4).

The team of teachers responsible for planning the teaching for the seven to eight year olds meets regularly during the year. The units of inquiry to be taught this year have already been established and were in fact taught last year. However, the group of teachers has changed and it is important that this new group considers the reflections of last year’s team. These reflections are documented on the unit planners developed last year. Each completed unit of inquiry will have a corresponding unit planner on file.

After consideration of the reflections, the new group will assess the relative success of each unit of inquiry. If the unit is to be taught again, each section documented on the unit planners will need to be reviewed to improve the teaching and hence the learning. One section of the planner lists the guiding questions set by the teacher to help the children engage with the central idea of the unit. Samples of children’s questions are also listed in this section. A checklist in this section lists the concepts, so the teacher may keep a record of those concepts covered by the questions.

This is an aide-memoire, so that as the year progresses the teachers are aware of which concepts are driving the inquiry. It is not necessary that there be a one-to-one correspondence on each unit planner. However, during the year all the concepts should have been referred to repeatedly and developed further.

The teachers will also be considering and monitoring the role of the concepts in the delivery of any subject-specific part of the programme that does not lie within the transdisciplinary units.

Figure 4

In this way, the concepts shape the extended, structured inquiry—**units of inquiry**—that are a distinguishing feature of the PYP. Schools plan and implement a set of these units each year at each grade level. Collectively, these units form a transdisciplinary, coherent, school-wide component of the PYP, the **programme of inquiry**.

The subject-specific bodies of knowledge (see page 6), together with the programme of inquiry, provide a comprehensive, well-balanced curriculum that requires children to reflect on their roles and responsibilities and to participate fully in the learning process. The concepts help the teacher to make the classroom a stimulating and provocative place, where the child’s point of view, supported by knowledge, skill, reflection and understanding, is both valued and made useful (Figures 5 and 6).

In a unit of inquiry for eleven year olds entitled “Managing our resources”, the central idea developed is that we live in a world of finite resources and unlimited demands. The teacher or student might pose the following questions related to some of the concepts.

- If you are dependent on firewood for fuel, how do you feel about preserving the rainforest?
(Suggested by the concept **perspective** and the related key question **What are the points of view?**)
- How can we manage our classroom resources more efficiently?
(Suggested by the concept **responsibility** and the related key question **What is our responsibility?**)

Figure 5

In a unit of inquiry for four year olds entitled “Families and friends”, the central idea developed is that people need families and friends. The teacher or child might pose the following questions related to some of the concepts.

- In what ways are families alike and different?
(Suggested by the concept **form** and the related key question **What is it like?**)
- How can we make someone a friend?
(Suggested by the concept **connection** and the related key question **How is it connected to other things?**)

Figure 6

The PYP strikes a balance between the transdisciplinary programme of inquiry and traditional disciplines

The PYP acknowledges the importance of the traditional disciplines of particular subject domains: language; mathematics; social studies; arts; science and technology; personal, social and physical education. The knowledge and skills that constitute the essence of each of these subject domains are documented in detailed frameworks—**scope and sequences**—which set out the overall expectations for each subject within each age range. These documents are provided to schools as exemplar material. While some schools may adopt these frameworks, other PYP schools may choose to follow a locally or regionally determined subject-based curriculum.

However, the PYP also recognizes that educating children in a set of isolated subject domains, while necessary, is not sufficient. Of equal importance is the need to acquire skills in context, and to explore content that is relevant to children and transcends the boundaries of the traditional subjects. “To be truly educated, a student must also make connections across the disciplines, discover ways to integrate the separate subjects, and ultimately relate what they learn to life” (Boyer, 1995). Ernest Boyer proposed children explore a set of themes that represents shared human experiences such as “response to the aesthetic” and “membership in groups”. He referred to these as “core commonalities”. In the PYP, this idea of human commonalities shapes the transdisciplinary themes.

The programme defines transdisciplinary themes that identify areas of shared experience and have meaning for individuals in different cultures. These themes are part of the common ground that unify the curriculums in all PYP schools. They provide the opportunity to incorporate both local and global issues in the content. They are:

- Who we are
- Where we are in place and time
- How we express ourselves
- How the world works
- How we organize ourselves
- Sharing the planet.

Children inquire into and learn about these common human issues in the context of units of inquiry, each of which addresses a particular transdisciplinary theme (Figure 7). The children make their contributions and develop understanding through the perspective of their personal and cultural experiences.

<p>Transdisciplinary theme: How we express ourselves</p> <p>Title of unit of inquiry (for nine to ten year olds): The impact of advertising</p> <p>Subject focus: Social studies, arts</p> <p>Central idea: Advertising influences how we think and the choices we make</p> <p>An inquiry into:</p> <ul style="list-style-type: none">• the purpose of advertising• the types, styles and locations of advertisements• the devices used to make advertising effective (use of language, images and sounds)• how advertising affects everyday choices• the connection between advertising and target groups, particularly children• what is a good advertisement.
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Figure 7

Both the traditional subject domains and the transdisciplinary themes provide a focus for children's inquiry. Within the subject domains children acquire the particular skills that define the discipline of that subject, eg in language the students become literate, in mathematics they become numerate. The acquisition of literacy and numeracy, in their broadest sense, is essential as these skills provide children with the tools of inquiry. Within the transdisciplinary themes, the children acquire and apply a set of transdisciplinary skills: **social** skills, **communication** skills, **thinking** skills, **research** skills and **self-management** skills. These skills are valuable, not only in the units of inquiry, but also in all the subject domains and in events experienced outside the classroom.

The PYP promotes international mindedness

By developing the transdisciplinary skills, investigating the transdisciplinary themes and addressing the various needs of the child—physical, social, intellectual, aesthetic and cultural—the PYP ensures that the learning is significant, relevant, engaging and challenging, so that the child can reflect on the connections between life in school, life at home and life in the world. By helping the child make these connections and see that learning is connected to life, the PYP intends to establish a strong foundation for future learning.

The transdisciplinary themes have global significance; they are intended to promote an awareness of the human condition and an understanding that there is a commonality of human experience. The children explore this common ground collaboratively, from the multiple perspectives of their individual experiences and backgrounds. This sharing of experience increases the children's awareness of, and sensitivity to, the experiences of others beyond the local or national community. It is central to the programme and a critical element in developing an international perspective, which must begin with the ability to consider the point of view of someone else in the same class.

The PYP intends to develop this international sensitivity through the key questions derived from the concepts and through the content of the written curriculum, such as the requirement that all students receive instruction in a language other than the language of instruction of the school, starting by the age of seven at the latest. One of the goals of exposing children to languages other than their mother tongue is to provide an insight into and an appreciation of other cultures, and an awareness of other perspectives. In addition, this sensitivity is enhanced through development of the behaviours listed in the PYP **student profile** and through the **attitudes** that are an explicit and essential element of the programme.

The student profile is defined by a list of behaviours that the PYP intends to develop in all children in all school cultures. Part of the adaptability and vitality of the programme lies in what these behaviours may look like from one school culture to another. The PYP supports children to become inquirers, thinkers, communicators, risk-takers; to be knowledgeable, principled, caring, open-minded, well-balanced, and reflective.

The PYP also lists attitudes to be developed in the children which will contribute to the student profile: appreciation, commitment, confidence, cooperation, creativity, curiosity, empathy, enthusiasm, independence, integrity, respect, tolerance. It is intended that these attitudes be explicitly accepted and modelled by the entire school community. This emphasis on the PYP student profile and the attitudes potentially becomes a valuable means for effecting school improvement.

A number of the elements of the PYP contribute to the transdisciplinary nature of the programme. These are: the student profile, the concepts that structure the inquiry, the themes that define the units of inquiry, the skills and the attitudes listed previously. This transdisciplinary aspect of the PYP enhances the connection between children's learning and the world.

The PYP requires valid and varied assessment

The prime objective of assessment in the PYP is to provide feedback on the learning process. Bruner states that “students should receive feedback, not as a reward or punishment, but as information” (Bruner, 1961). The PYP requires teachers to be mindful of the particular learning outcomes they intend to report on prior to the selection or the design of the assessment. They need to employ techniques for assessing children’s work that take into account the diverse, complicated and sophisticated ways that individual children use to understand experience. Additionally, the PYP stresses the importance of both student and teacher self-assessment and reflection (Figure 8).

Opportunities should be provided for students to consider their progress in relation to the attributes listed in the PYP student profile. Observations and anecdotal records of their own performance could be included in each child’s portfolio of selected work. The child could also contribute to the school report to parents, through the report card and/or student-led conferences. For example, here are the unedited observations of a nine year old at an international school whose mother tongue is not English:

“...The first year I hade very big problems because I didn’t understand the language. I had a lot of work to do after school to be able to follow in class. Some days I wanted to give up just because I wasn’t sure if I will succeed. After I have cried a lot of times, I have managed to believe in myself again and get my act together.

I was not scared anymore to ask questions (sometimes a little bit too much for my teacher) and aksing for help of my friends. Sometimes I still don’t know my limits and I try to make the right decisions. I am better and I also look things up on my own. I have learned to take risks and to stand up for my ideas. That I am good at sports helped me very much, especially for my self-confidence. I set my standards high to become an intelligent, communicative, careing and open-minded person.”

Figure 8

The assessment strategies and tools—**rubrics, anecdotal records, checklists, benchmarks, continuums, portfolios of work**—proposed by the PYP, are designed to accommodate a variety of intelligences (Gardner, 1983) and ways of knowing (Bruner, 1967). Where possible, they provide effective means of recording children’s responses and performances in real-life situations which have real problems to solve. These authentic assessment strategies may be used in conjunction with other forms of assessment, such as standardized tests, in order to assess both student performance and the efficacy of the programme.

In its approach to assessment, the PYP recognizes the importance of assessing the actual process of inquiry as well as the outcomes of inquiry, and aims to integrate and support both. The teacher is expected to record the detail of the inquiry initiated by children in order to look for an increase in the substance and depth of the inquiry.

The teacher needs to consider:

- if the nature of children's inquiry develops over time—if, in fact, they are asking questions of more depth which are likely to enhance their learning substantially
- if children are becoming aware that real problems require solutions based on the integration of knowledge that spans and connects many subject areas
- if children are demonstrating mastery of skills and an accumulation of a comprehensive knowledge base to be able to conduct their inquiries successfully, find solutions, and solve problems
- if children are demonstrating both independence and an ability to work collaboratively.

In the final year of the PYP the children participate in a culminating project, the PYP exhibition. This requires that each child demonstrates engagement with the five essential elements of the programme—knowledge, skills, concepts, attitudes, action. It is both a transdisciplinary inquiry conducted in the spirit of personal and shared responsibility, as well as a summative assessment activity that is a celebration and rite of passage, symbolic and actual, from the PYP into the middle years of schooling.

Summary

The PYP focuses on the heart as well as the mind and addresses social, physical, emotional and cultural needs as well as academic ones. The traditional academic subjects are valued. In addition, there is an emphasis on the balance between the acquisition of essential knowledge and skills and the search for meaning and understanding. The programme provides opportunity for learners to construct meaning, principally through concept-driven inquiry. The threads of children's learning are brought together in the transdisciplinary programme of inquiry, which in turn allows them to make connections with life outside the school. The PYP enables children to develop sensitivity to the experiences of others through the curriculum, the attributes listed in the student profile, the attitudes that are an explicit element of the programme, and the expectation of socially responsible action as a result of the learning experience.

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