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Developing inquiries

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In the final year of each of the International Baccalaureate (IB) programmes, all students complete an inquiry. In the Primary Years Programme (PYP), this inquiry is called the “exhibition” and in the Middle Years Programme (MYP), the “personal project”. Both these inquiries allow students to demonstrate their knowledge and understanding, apply their skills to explore issues of personal interest, and communicate this interest to others. In the Diploma Programme (DP), the “extended essay” encourages students to undertake a focused piece of original research in a subject of their choice and to present this research in a rigorous academic manner. All three inquiries are carried out over an extended period of time. They require commitment and the application of both academic and personal skills. The IB sometimes refers to these inquiries as “culminating experiences”, implying that in undertaking them the students are at the highest point of their programmes.

The first part of this chapter will describe the three culminating experiences and consider in what ways these experiences—the exhibition, the personal project and the extended essay—can, justifiably, be regarded as the highest point of each programme. The remainder of the chapter will explore ways in which these inquiry experiences may change and develop in the 21st century.

Lifelong learning and the three inquiries

The principle of original, personal research as a culmination of academic courses is well established in tertiary education. The major part of any doctoral degree is a report of research, the sharing of increased understanding with an academic community. Part of the final assessment of many master’s degrees is the presentation of an original research thesis that extends both personal and community understanding. The inquiry component of the IB programmes brings this principle into the primary and secondary levels. At the heart of the inquiries is the creation of understanding that is relevant to the learners and to their learning community.

As with doctorates and other higher degrees, it is the intellectual training—the academic integrity imaginatively applied—that underpins the inquiries across the three IB programmes and lays the foundations for lifelong learning. Both the exhibition and the personal project are much more demanding than traditional individual projects or “topics” undertaken in many elementary and middle schools. Over the past decades these traditional projects—often simply a collection of facts or “inert knowledge” related to a particular subject or theme, which may or may not be of any particular interest to the student—have earned a bad name. Both the PYP and the MYP experiences are much more demanding. In the exhibition, student inquiries are structured by a common conceptual idea and by “key concept questions”. Likewise, student inquiries in the personal project must “allow the student to investigate and focus on a theme, topic and or issue closely connected with at least one area of interaction of the MYP”.¹ I have already noted that the DP extended essay is a rigorous academic exercise. The inquiries of all three programmes are intellectually demanding at the appropriate developmental and/or alternative linguistic level of the individual student.

Inquiries as rites of passage

The three inquiries aim to be appropriate and significant events in the school career of IB students. In many schools they become a personal rite of passage, a challenge that generates anticipation of future inquiry experiences and an opportunity to celebrate the completion of a programme. As rites of passage the inquiries in each of the programmes are different. These differences can be explained in the larger context of the genesis of each programme. The extended essay is a highly academic personal research project appropriate for students seeking entry to university, reflecting the DP’s origins as a university preparation programme. The personal project recognizes the burgeoning independence, self-awareness and maturity of young adolescents, providing an opportunity for them to research and practically demonstrate their understanding in an area of their own interest. The exhibition provides an opportunity for younger students to select an issue, problem or area of interest that can be explored collaboratively.

The rite of passage is not only personal, it is also communal. PYP exhibitions are shared across the school community as a requirement. The MYP personal project presentations are increasingly shared, although it is not a formal requirement that they should be so. Increasingly in IB World Schools offering the DP, examples of good extended essays are published and made available in the school library. In two- or three-programme schools these cross-school events serve to remind older students of their past achievements at the exhibitions and personal projects. They can also be inspirational, giving younger students an exciting glimpse of what lies ahead. Teachers from across the whole school are often involved in the mentoring, supervising and assessing of students. This creates an opportunity for them to gain insights into the interests and capabilities of students to whom they might not

otherwise have access. Teachers of older students are often surprised at both the quality of the learning experience of younger students and the quality of the final product on display. The involvement in and sharing of the inquiries can create a mutually supportive learning community among students and teachers.

This involvement of a supportive learning community often extends beyond the school. Many student inquiries involve parents and the local, and sometimes wider, community. Schools take advantage of the inquiries to publicize the programmes to parents and others: if you want to understand the IB programmes, the school suggests, come and look at your children's work. Through involvement in the inquiry process and celebration, the parents and the community become part of the rite of passage. An inevitable and valued outcome of these inquiries is heightened parental and community understanding of the learning that takes place in and the values that underpin the IB programmes.

The three inquiries

All three IB inquiries are an essential part of their programmes. They present students with opportunities to engage in learning that is relevant to their individual and community interests. Integral to that learning is reflection on the learning process.² In 2011 the IB can claim with justification that the inquiries are culminating experiences—high points in the three programmes, bringing together school communities and setting standards for learning.

The Diploma Programme extended essay

The extended essay is an academic research exercise presented as a formal piece of scholarship of not more than 4,000 words. It is an in-depth, individual inquiry into a focused topic from the list of approved DP subjects—normally, but not exclusively, one of a student's six chosen DP subjects. It is intended to promote research skills, intellectual discovery and creativity and presents students with an opportunity to engage in personal research into a topic of their own choice. The final presented work—a formally structured essay in which ideas and findings are communicated in a reasoned and coherent manner—gives the student an opportunity to show knowledge, understanding and enthusiasm about a topic of his or her own choice (see text box).

The extended essay is externally assessed and, in combination with the grade for theory of knowledge (TOK), contributes up to three points to the total score for the diploma. The assessment of the extended essay in conjunction with TOK assessment is not a coincidence. One of the main aims of TOK is "to develop an awareness

of how knowledge is constructed, critically examined, evaluated and renewed by communities and individuals".³ The extended essay puts this objective into practice as students, through their extended essay, both construct knowledge and critically examine it.

Recent examples of the extended essay

Ahmed Nawab's motivation for his 2010 extended essay showed an interesting desire to expand his academic horizons. Ahmed (of the International School of Geneva, Campus des Nations) plans to study engineering and his higher level subjects were sciences and maths. With the addition of the languages this left him little experience of the arts and human sciences. Encouraged by his Diploma Programme coordinator, he chose as his research question: "To what extent can the publications of the pictures of Prophet Muhammad in the Danish *Jyllands-Posten* newspaper on 30th September 2005 be justified as an act of freedom of speech?" He began his essay with an overview of when and where the cartoons were published and briefly described the reactions that followed. He then analysed the arguments of those who see the publication as an act of free speech and those who see it as blasphemous and encroaching on the rights of others. When asked about his choice of subject, he explained that because he could obtain at most three points for the extended essay and TOK together out of a maximum of 45, he was prepared to take a risk and research something entirely different from his other subjects.

His fellow student, Josianne Galea, chose more conventionally. She intends to study English literature at university and used the opportunity of the extended essay to explore this academic interest. Her research question was: "How are supernatural creatures used in Shakespeare's plays, and what are their function?" She selected four plays—*A Midsummer Night's Dream*, *Hamlet*, *Macbeth* and *The Tempest*—and identified the supernatural creatures in them. By analysing their interaction with mortals, the imagery associated with them and their dramatic presence, she defined the function of these supernatural creatures in the context of the Elizabethan audience.

These two essays, different as they are, clearly fulfill the main aims of the inquiry. Both students have pursued independent and systematic research appropriate to the subject and have used creative and critical-thinking skills. More significantly, in terms of their future as lifelong learners, they have taken control of their own learning, identifying a knowledge problem and exploring it in some depth.

The Middle Years Programme personal project

The personal project is a significant body of work produced over an extended period at the student's own initiative. It is an opportunity for students to produce work that challenges their creativity and thinking about issues of interest or concern to themselves. The personal project can take many forms, for example:

- an original work of art (visual, dramatic or performance)
- a written piece of work on a special topic (literary, social, psychological or anthropological)
- a piece of literary fiction (that is, creative writing)
- an original science experiment
- an invention or specially designed object or system
- the presentation of a developed business, management or organizational plan (for an entrepreneurial business or project), a special event, or the development of a new student or community organization.

The project reflects the student's experience and understanding of the five "areas of interaction" that form the core of the MYP:

- approaches to learning
- community and service
- health and social education
- environments
- human ingenuity.

These areas provide contexts and connections through which students, advised by their teachers, design and undertake their inquiries (see text box). At the end of the process students are required to write a personal reflective statement analysing their choice of topic, the process of completing their product, their level of engagement, and including a self-evaluation of what they have learned.

Questions that have spurred successful personal projects

The following are examples of questions that were the basis for recent personal projects in the MYP at the International School of Geneva, Campus des Nations.

- How can one, through the cartooning style of other artists, depict adolescent life?

- How can I give the younger students an opportunity to experience the environment of public speaking?
- What can one learn about the manufacture of modern aircraft through the creation of a radio-controlled aeroplane?
- How can one apply Swiss principles of governance in a small Indian village?
- What can one learn about the violin through the process of constructing a model and exploring the history of violin-making?
- How can one use the laws of physics to create a BMX-specific half-pipe?

Once a student has established the question that will form the basis of the inquiry, he or she is free to choose whatever form is most appropriate for the personal project.

The Primary Years Programme exhibition

The connection between the extended essay and the personal project can be clearly seen: both provide an opportunity for individuals to undertake work on a subject that interests them and challenges their creativity and intellect. The exhibition is fundamentally different in that it engages students in a collaborative inquiry that is a school-based, teacher-facilitated process culminating in a final celebratory event (see text box). The exhibition:

- centres on problems, issues or interests that are personally relevant to the students
- allows students to demonstrate understanding of the PYP key concepts, to demonstrate the development of the PYP transdisciplinary skills and to display the PYP attitudes
- provides opportunities for students to reflect on and assess their own and others' learning
- encourages student action as a natural and inevitable outcome of learning

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- allows students to share their learning using a range of media and tools of communication.⁴

An example of a PYP exhibition

One PYP exhibition at the International School of Geneva, Campus des Nations explored how “Working together we can make a difference within our communities.” The students began by identifying key questions to guide and focus their investigations of the problems, issues and concerns within the school community. These questions included the following.

- What problems exist within our school community?
- How is the school environment connected to learning?
- How has our school environment changed since last year?

They then organized the collection of data through:

- surveys of students
- interviews with a parent representative on the school’s board of governors, a student in grade 12 whose MYP personal project was on the school’s sports facilities, the president of the PTA and various members of the administration
- internet research about other international schools.

As this work progressed, small groups selected particular “lines of inquiry” that focused on the following questions.

- How can the playgrounds be improved?
- How can the classrooms be cooler?
- How can littering be stopped?
- How can we make our assemblies more interesting?

The actions taken by groups “to make a difference” included:

- setting up a donation box for money for new playground equipment
- writing a request to the PTA for a new climbing frame for next year

- getting and sharing information about plans for classroom fans
- presenting a skit in assembly about picking up litter
- organizing a student group who were in charge of planning and running assemblies.

The final culminating event took place when parents and other members of the school community came to learn about students' work presented as visual displays and as student-created music, dance and other media presentations. The exhibition closed with group and individual reflection on and assessment of what had been learned. Student comments regarding what had been learned from the exhibition included the following.

- "Playground equipment is very important to students in our school."
- "I learned so much about myself and how I can improve."
- "Working together you accomplish so much more than you could on your own."
- "It is never impossible to make a difference. All it takes is time and effort."

The way ahead

As the number of IB World Schools offering two or three IB programmes grows, and as technology makes communication simpler and more accessible, schools will learn from each other and adapt—and so, inevitably, will the inquiries. It is impossible to predict accurately how the inquiries will change in the next 15 years but certain trends seem to be emerging, the most obvious of which include:

- incorporating international-mindedness more formally and explicitly into each of the inquiries
- developing the IB community as a whole and the individual schools as a community of learners
- creating an assessment system aligned to support lifelong learning
- using technology to change the way in which students and teachers interact, plan, research, present and assess learning.