

A snapshot of the IB

‘*Only the educated are free.*’

Attributed to Epictetus, Greek stoic philosopher (CE 55–135).

- 1.1** Where the IB is going
 - 1.1.1 IB mission
 - 1.1.2 Strategic plan – the next five years
 - 1.1.3 Strategic vision – the next five years and beyond
 - 1.1.4 Access to the IB
- 1.2** Where the IB has come from – history and growth
 - 1.2.1 Very early years
 - 1.2.2 Development of the DP model
 - 1.2.3 IB take-up and expansion
 - 1.2.4 Recent growth
- 1.3** Where the IB is now
 - 1.3.1 Overview of IB regions
 - 1.3.2 IBAEM – IB Africa/Europe/Middle East
 - 1.3.3 IBA – IB Americas
 - 1.3.4 IBAP – IB Asia-Pacific
- 1.4** Who is involved
- 1.5** Case studies of the DP in various countries/regions
 - 1.5.1 Australia
 - 1.5.2 Québec
 - 1.5.3 Chile
 - 1.5.4 The People’s Republic of China
 - 1.5.5 Hong Kong SAR
 - 1.5.6 India
 - 1.5.7 Japan
 - 1.5.8 New Zealand
 - 1.5.9 Qatar
 - 1.5.10 Scandinavia
 - 1.5.11 United Kingdom
- 1.6** Further resources



1.1 Where the IB is going

1.1.1 IB mission

It does not take long, when first finding out about the IB, to hear that it is a mission-driven organization. IB employees and teachers are rightly proud of this idealism: if educators are not idealistic about creating a better world, then who will pass this on to the next generations? It is worth repeating the IB mission statement here as all else about the IB flows or should flow from this and we shall return to it throughout this book.

‘The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.’

IB Mission: <http://www.ibo.org/mission/>

1.1.2 Strategic plan – the next five years

Following on from the last five-year plan which had the goals of maintaining quality, increasing infrastructure and accessibility, the latest plan, launched in 2011, has four goals: (<http://www.ibo.org/mission/strategy/>)

- to strengthen the leadership of the IB in international education
- to evolve and improve IB services and support to schools by building capability
- to develop a more diverse and inclusive IB community by enabling access to an IB education
- to build a sustainable, responsible and efficient organization for the future.

In wanting to continue to show leadership in international education, the IB knows it has to work smarter and be an innovator – in its programmes, assessment and professional development (pd). It has to show universities and others that the IB programmes are appropriate for 21st-century learners and that it is carrying out research and development (new DP subjects, the IB career-related certificate (IBCC), strengthening the Middle Years Programme (MYP) and improving its support to its schools.

The IB can only achieve its goals by working in partnership with schools, teachers, national governments and donors so it has to be a listening organization. It is also trying to work more sustainably and innovatively which is a challenge for any global organization.

The IB has undergone reorganization in the last few years in order to maintain its high quality of assessment and curriculum and its school services. There are more IB employees and offices have moved and enlarged. There are global heads of the many departments of the schools division such as global pd and a strengthened network of IB consultants in the IB educator network (IBEN, see Section 5.5; p. 108).

Still a Swiss foundation and working under Swiss law, so with headquarters in Geneva, the IB now has global centres in Bethesda, Maryland, USA, Singapore and The Hague, The Netherlands, as well the IB assessment centre in Cardiff, Wales, UK. The IB is poised for the next phase of its life now with new offices and many new and enthusiastic staff and member schools. It faces many challenges in the globalized, diverse, eastward-shifting world but increased complexity can bring innovative solutions to solve problems. The internet, personal computers, netbooks, iPads, mobile phones, e-marking, online courses and remote working were not known when the IB was founded yet it has adapted to using these new tools while keeping its purpose throughout.



1.1.3 Strategic vision – the next five years and beyond

A plan means little without a vision behind it and the vision of the IB is as strong as ever. The stated IB vision in 2011 is to have ‘impact through leadership in international education’. This involves ‘collaboration with schools and educators to continue to develop the quality programmes, improve teaching and learning in the diverse, inclusive IB community and to influence thinking about international education globally’.¹

Any strategic plan is time limited and has to be updated regularly, both internally and externally, to take account of changes. The vision of the IB will continue beyond individual strategic plans. Tangible results of this recently are:

- the IBCC widening access to the IB (see p. 93)
- improving support to schools via a schools division with IB Answers (a single information source for stakeholders) and e-marking to make assessment more secure
- pd expansion with online, on-site and face-to-face training
- targeted growth in specific segments – something the IB never previously entered into – e.g. having a memorandum of understanding with the Aga Khan development network (AKDN) which runs schools in the developing world, to broaden access and improve delivery of programmes
- planned growth
- online diploma courses for students, currently in partnership with Pamoja Education (see pp. 232–235)
- work on building a sustainable and efficient IB by developing capacity and capability of IB leadership and staff.

1.1.4 Access to the IB

The IB has never yet run a marketing campaign to enroll more schools, nor has it sought to take over any national education system. It has advised many governments as a partner and has both learned from them and influenced them in developing student-centred national programmes which look internationally.

But it is in the position now of being offered in more – some 57% in 2010 – state-funded (public) schools than independent (private) and the majority of IB schools in the USA, Canada, the UK and Scandinavian countries are state-funded.² However, most IB schools in other countries, particularly in the developing world, are independent schools charging fees, which put them out of reach for most of their population.

So there remains the question of how the IB can benefit more students worldwide and not only those who are in the privileged position of having the money to attend schools which charge fees. Becoming an IB school is expensive and ongoing costs are high so there is a tension between maintaining quality and increasing access. The IB Board (previously Council of Foundation) considers this often and in its 2006 report *‘From growth to access’* attempted to define strategies for expanding access. But it is the case that of the 3462 IB World Schools (September 2012 figures), 60% of them are in only four countries and these are amongst the world’s wealthiest – the USA (1374), Canada (320), the UK (199) and Australia (144). The IB has tried to improve access by encouraging schools to cluster together locally to support those with fewer resources and to share best practice and skills but the impact of this is small. Working with the United Nations Educational, Scientific and Cultural Organization (UNESCO), partnerships with organizations such as the Aga Khan development network (AKDN), the formation of the Education Innovation Services Division of the IB, all help. But the issues to be overcome are huge – poverty, conflict, the role of women in societies, language barriers, infrastructure – and the IB does not yet have the resources to address the affordability of its programmes. There are small steps in this such as the IB grants (<http://www.ibo.org/accessandadvancement/ibgrants/>) for schools experiencing temporary financial

¹ From a presentation by the director general Jeffrey Beard at the October 2011 IBAEM regional conference. See <http://www.ibo.org/ibaem/conferences/speakers/index.cfm>

² According to Ian Hill, IB deputy director general, in Walker, G. (ed). (2011). *The changing face of international education*. Cardiff: International Baccalaureate, p. 122.

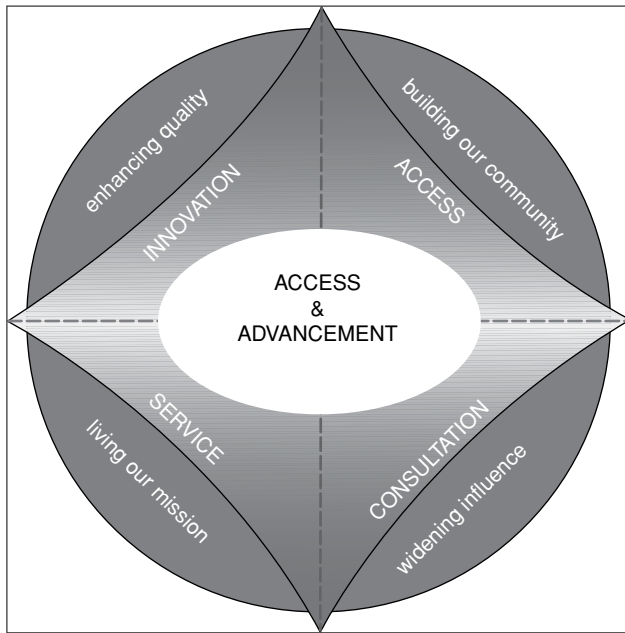


Figure 1.1 The IB's view of access and advancement.

challenges or that are increasing access to IB programmes. There is also the US\$2.4 million grant from the Bill and Melinda Gates Foundation to help low-income and minority students in the USA prepare to participate in the DP (<http://www.ibo.org/media/gatesfoundationawardsibgrant.cfm>). But these are drops in the access ocean and widening access will always be a challenge for the IB (see Figure 1.1).

1.2 Where the IB has come from – history and growth

‘*Since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed.*’

Archibald MacLeish (1892–1992), American writer and poet.

This quote is incorporated into the preamble of the UNESCO constitution.

1.2.1 Very early years

It has been said that the IB was a good idea from a small group of educators that took off. Over 40 years later, it is still expanding with just over 4000 programmes in nearly 3300 schools in over 140 countries. A brief history of the IB here puts this expansion into context. This potted background and history owe much to the work of Ian Hill, who has been deputy director general of the IB Organization since 2000, and to Alex Peterson's *Schools across frontiers*.

A quick dip into the formation of the IB takes us back to the League of Nations and thinking about how to bring about a lasting peace, and to schools such as the UN International School, New York and Geneva International School, amongst others. Names that come up include the names of Alex Peterson and Kurt Hahn and it is in the context of the aftermath of the world wars of the 20th century that today's concept of international education arose.

The International School of Geneva (abbreviated to Ecolint) was founded in 1924 to educate the children of those working in the newly founded League of Nations and International Labour Office. With families from many nations and roots in these, there was a need for an international school-leaving examination which would

be currency ‘back home’. In other parts of the world, other groups of expatriates gathered to form international schools for their children. Yokohama International School was well established in the 1920s with a primary curriculum that attempted to promote international understanding.

But like many first attempts at new initiatives, there was not enough momentum or desire for this and the door to an international curriculum did not open easily until after the Second World War. Then Ecolint was still operating and was instrumental in founding the International Schools Association (ISA) as many other international schools had sprung up to meet the needs of the children of the increasing number of personnel working in international organizations. To name a few of these: the United Nations International School (UNIS) was founded in New York in 1947 where the United Nations has its headquarters; Jakarta International Primary School in 1951, Kabul International Primary School in 1954 and the International School of Ghana in Accra in 1955 all founded under the patronage of various embassies. Before these, and where an international school did not exist, there were separate English, French and American schools, Goethe Institutes and other national schools. These were in various capital cities for the children of the small numbers of expatriate workers and these schools inevitably enhanced national differences rather than exploring our similarities. Of the many areas of the curriculum that tended to stay within national viewpoints, the study of history and of mother-tongue and other languages were particularly ‘national’, whereas science and maths have to be international by their very nature.

After the Second World War, the world was very different: more students than ever before were going on to university courses, more people were internationally mobile or had been displaced by the war, and the time to recognize the need for an internationally recognized school-leaving qualification had come. So, over 20 years after the initial call, the 1948 Council of Internationally Minded Schools was committed to this project. But, as always, it was down to individuals with drive and vision to make organizations do things and Desmond Cole-Baker, who was then head of the English stream at Ecolint, was one of these drivers. Around him were a group of idealistic teachers who worked in the 1960s on the concept of an international baccalaureate. But funds were short or non-existent and the day jobs always demanding. It was Bob Leach, an American Quaker, who got UNESCO involved in providing a small amount of funding for various conferences and seminars for teachers interested in developing an international curriculum but funds were always short for these events as well as in the international schools. The other issue was that the international schools often ran separate streams based on mother-tongue language and this led to divisions within the schools. They were also expensive to operate.

The underlying theme over these years was that of the teachers who kept the vision going because they saw the need daily for a unifying curriculum in their classes. But, as Kurt Hahn knew so well, quoting Plato ‘*He who wishes to serve his country must have not only the power to think but the will to act*’ (quoted by Prince Charles in the foreword of *Schools across frontiers*), it takes more than a good idea to make a real change in the practice of education. The next driver of the embryonic IB was John Goormaghtigh, a Belgian who was chairman of the board of Ecolint but who resigned from this position in 1962 to focus on the newly formed International Schools Examination Syndicate (ISES), which eventually gave up this very English title to become the IBO in 1967 (rebranded to IB in recent years). (There have only been six directors general of the IB since its inception; see Table 1.1 on p. 8.)

‘*Never enough funds to achieve what it wants to achieve*’ has been and still is a constant refrain for the IB. In the past, it has teetered on the edge of sustainability due to lack of funding and has relied heavily on the goodwill of teachers and schools to support the good idea of the IB. It took until 1964 and a grant of US\$75 000 from the Twentieth Century Fund for the ISES to have an office and executive secretary.³ We may think that the IB of today is heavy with bureaucracy but it was ever such, even in the 1960s, with various committees and councils even before a single student learned the international curriculum it was developing. But, *plus ça change (plus c’est la même chose)*, the joy and satisfaction of getting committed teachers from around the world together in informal conversations to put the education world to rights was always there. Ruth Bonner and Gerard Renaud were amongst the many teachers to whom the IB today owes a huge debt.

³ Peterson, A. D. C. (2003). *Schools across frontiers: the story of the International Baccalaureate and the United World Colleges*, 2nd edition. Chicago: Open Court.

Years	Director general
1968–77	Alex Peterson
1977–83	Gerard Renaud
1983–98	Roger Peel
1998–99	Derek Blackman
1999–2006	George Walker
2006–	Jeffrey Beard

Table 1.1 The directors general of the IB.

1.2.2 Development of the DP model

‘What sort of boy do you want to produce here?’
 ‘One who is acceptable at a dance and invaluable in a shipwreck.’

Visiting parent to J. F. Roxburgh, first headmaster of Stowe School, England in the 1920s.

What goes into making an educated human being is not only a discussion for our times. It has been argued over since before the time of Aristotle. J. F. Roxburgh may express his ideas on education in terms of dances and shipwrecks, rather than in terms of personal and social skills and cognitive development with objectives and targets, but we understand his vision. However we phrase it, we tend to agree that education should help us to develop to our fullest potential and to make a difference for the better to the world in which we live. But our system of testing and ranking students has come a long way from those simply stated aims. The challenge for any curriculum developer is to make the test a valid interpretation of the aims of the curriculum – we teach what we test – so we need to measure what we value.

The initial bureaucratic load was nearly the end of the IB even before it got properly started, until it was ‘rescued’ in 1967 and moved to a base in the University of Oxford Department of Educational Studies under the leadership of Alex Peterson, securing a grant of US\$300 000 from the Ford Foundation. As Peterson says, they then needed five things:

- a unified international curriculum and examination system
- university recognition of the examination as an entrance qualification
- schools to teach it
- parents willing to commit their children to this untried system
- a secure source of funding so it would not collapse in mid-programme.

As teachers, we all know that our subject is the most important one; we have committed a large chunk of our life to becoming an expert in it and we want others to share in this passion. That is one of the many healthy tensions for the IB. If we each had our way, students would devote a good deal of (or too much) time to ‘our subject’ and there would be less for the others. These discussions over what is in the curriculum or the course will never stop and indeed are a sign of the vitality of the IB. But there has to be a balance and the aim should surely be to provide a curriculum in which liberally educated young people can know themselves and where they fit in the world better and make wise decisions.

One of the key strengths of the IB both in the early days and today is its ability to bring internationally minded people together from many national backgrounds. American, French, Swiss and English representatives may not seem a very international mix today but it was a start and soon schools in Montevideo, Ibadan, Tehran, Santiago, Rome, Berlin, Singapore, Wales and Geneva were signed up but with only a handful of students taking the IB. There would



perhaps have been more schools if groups of teachers who ‘got it’ had had their way but it often needs the head of school to have the vision and strength of leadership to carry the resistors along. As Machiavelli so clearly put it:

‘It must be remembered that there is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage than a new system. For the initiator has the enmity of all who would profit by the preservation of the old institution and merely lukewarm defenders in those who gain by the new ones.’

Niccolò di Bernardo dei Machiavelli (1469–1527).

Amazingly, although the model for the DP was hammered out over 40 years ago it is fundamentally the same today. As with most things, it was a compromise of idealism and pragmatism. In 1965, Gerard Renaud left a French Ministry of Education meeting with the agreement that the IB would be accepted if two languages and mathematics were specified and then other subjects chosen from specific groups. These groups were the humanities, sciences and ‘other’. The elements of the core of the IB diploma developed from the wish from France for a mandatory philosophy course – modified into what is now theory of knowledge (TOK). The package of the IB diploma was a coherent whole from the start but the idea that separate subjects could be taken as certificates, now known as ‘DP courses’, as well broadened the selective nature of the IB.

The IB’s first office was formed in 1967 due to a group of committed educators, rather than national government education ministries or non-governmental organizations (NGOs). That separation from government control has lasted throughout the history of the IB and is one of its key strengths. The IB may work with national governments but it is still educators who decide the IB curriculum, not politicians. In 1967, a seven-year trial period started when over 6000 candidates entered for IB examinations and most of these – about two thirds – were for DP courses (Table 1.2). The pass rate for the diploma in most years was 75% (range over the seven years 69–80%) and candidates of 81 different nationalities sat the exam in 37 schools.

One of the many problems for education today is that we are forever adding to the curriculum as new and important discoveries are made in all fields and new disciplines created. Who would have thought in 1967 that information and communication technology (ICT) lessons would be expected in schools or in 1500 in Europe that Latin, Greek and Maths were not enough for an educated man? But we have continued to allow the onion of education to grow with new layers upon the old and have done little to remove any. The result is a curriculum under time pressure and students under pressure, often continuing 13 or more subjects to the end of secondary education. The curriculum has been devised by people who are experts in their disciplines who generate curricula based on subjects and within frameworks which they know. Few of us in our careers specialize in only one discipline learned at school, yet the school curriculum is separated into nearly watertight compartments by

School	Candidate numbers
Atlantic College, Wales, UK	169
International School of Geneva	94
UNIS, New York	12
International College, Beirut	48
Copenhagen International School	8
Iranzamin International School, Tehran	7
North Manchester High School for Girls	11

Table 1.2 Schools and candidates involved in the first trial IB examinations in 1968 (Hill, 2010 quoting Peterson).

subject and woe betide the teacher who wants to do something interdisciplinary in the last few years of secondary education. The IB started in a different place by looking at the aims of an IB education and writing a curriculum to lead to these as far as was possible.

In 1960, the Oxford University Department of Education produced a report on the arts and sciences in the sixth form and articulated the issue that we have over 50 years on:

‘*We shall not solve the problem of combining general education with specialization until we cease to think of general education in terms of general knowledge. It is not a sign that a man lacks general education if he does not know the date of the Treaty of Utrecht, the latitude of Singapore, the general formula of nitro-glycerine or the author of the Four Quartets. It does denote a lack of general education if he cares nothing for the arts, confuses a moral with an aesthetic judgement, interprets the actions of Asian political leaders in terms of nineteenth-century English parliamentarianism, or believes that the existence of God has been scientifically disproved.*’

(quoted in Peterson, 2003 p. 42.)

or to put this another way:

‘*I want to know a butcher paints,
 A baker rhymes for his pursuit,
 Candlestick-maker much acquaints
 His soul with song, or, haply mute,
 Blows out his brains upon the flute!*’

Robert Browning 1812–1889 from his poem ‘Shop’.

The early IB was both visionary and pragmatic. The five requirements listed by Peterson were still in mind and those involved knew that students needed something on which to hang their thinking. You cannot discuss physics or history or even use language in the abstract without having some knowledge in some depth or some foundation on which facts can be built up like bricks in a house.

The ‘exploring a passion’ element of the IB diploma came in the form of the extended essay (EE) – a 4000-word research paper on a topic of the student’s choice. The social service element of Hahn’s philosophy – experiential learning – was also, from the very beginning, at the centre of the IB diploma. Surely, few of us have not had the conversation with a student about them wanting to give up an enjoyed activity in order to focus on exam grades. The early requirement for a creative aesthetic social service activity (CASS), which later became CAS (creativity, action, service), for half a day per week aimed to stop this happening.

It is a sad indictment of our world of education that students and their teachers do not have time to reflect on their learning nor make connections between areas of knowledge. We are bombarded by more and more information yet how much of this is worth knowing or remembering? The TOK course, the final part of the diploma core, was, from its outset, intended to help students understand the nature of knowledge and to make some coherent sense of what they were learning elsewhere. It was intended to be the time to reflect, discuss and deepen understanding, to make connections, understand our own biases and those of others and to gain intellectual satisfaction from doing so.

A central tenet of the IB is that the curriculum drives the examinations, not the other way round. Of course, examinations have to be written, sat and marked as students need this external validation of their achievements



in order to get to the next stage, usually university. But to have been indoctrinated in how to solve simultaneous equations or recite a speech from Shakespeare and to leave school knowing them for the rest of one's life, yet hating these things, is not a sign of a successful education. Lifelong love of learning and intellectual curiosity are the signs of a good education.

The perennial debate between validity of assessment and its reliability was there at the birth of the IB too. English and Welsh A-levels in the 1960s were reliable and pretty valid exams, timed essays written under exam conditions based on whether the candidate had read and understood a narrow range of topics or texts. Oral examinations are by their nature less reliable but may test a wider range of skills – style of expression, ability to communicate, deep understanding, a conversation with others. The IB diploma assessment still has a range of assessment tools at its heart, just as the pioneers wanted. Some are more reliable than others, some more valid. On balance, the general feeling is that it is about right and students get the final grades they mostly deserve.

1.2.3 IB take-up and expansion

In 1970, the first IB full diploma students numbered 29 (and 283 taking certificates) in nine schools dotted around the world. There were six full-time staff in 1967 with Alex Peterson as the director.⁴ There was also a Council of Foundation of 20 people, an executive committee and an examination board. In 1971, there were 601 candidates taking IB examinations (76 full diploma) and the pass rate was 72%. 15 years later, there were 300 schools and 6000 candidates.⁵ By 1977, year seven of the IB, there were exams in 24 language A subjects and 29 in language B.

It was always the case that the DP would be available in English, French and Spanish and this has continued to be so with some subjects and teacher support materials in Chinese and German. It is now also possible for biology, history and TOK to be taken in German, and the TOK course can be taken and assessed in Chinese.

In 1976, at the end of the trial years, there was a waiting list of 80 schools wanting to offer the IB diploma but the Ford Foundation grant had run out, as had some small grants from UNESCO. To allow the IB to continue, schools agreed to an annual subscription and a heads standing conference (HSC) consisting of all heads of IB schools was set up with a heads representative committee (HRC) of nine elected from the HSC. In 2001, this was disbanded and the international HRC (IHRC) and regional HRCs formed. In 2008, the IHRC became the Heads Council.

Until 1981, all IB examination administration had been carried out in Geneva where the IB was (and still is) registered as a not-for-profit Swiss foundation. But, with growth forecast and Geneva being an expensive city in which to have offices, the exam administration was moved to the UK: first London, then Bath University, and in 1989 to a site just outside Cardiff, Wales, where it was called IB Examinations (IBEX). But these offices were always more than exam administration centres as curriculum design and development, IB finance and other support services were also based there. In 1994, the more suitable name of IB curriculum and assessment centre (IBCA) was adopted as were the Middle Years Programme (MYP) and the IB Primary Years Programme (PYP) and the office, very short of space now, moved again in 2007 to another business park outside Cardiff. By then, there were some 260 staff working in IBCA. In 2011, curriculum managers left IBCA (which is now known as IB Assessment Centre) and moved to the new IB Global Centres in The Hague, Bethesda and Singapore.

1.2.4 Recent growth

“It is time for parents to teach young people early on that in diversity there is beauty and there is strength.”

Maya Angelou.

⁴Hill, I. (2010). The International Baccalaureate: pioneering in education. *The International Schools Journal Compendium, IV*. Woodbridge: John Catt Educational Ltd, p. 72.

⁵Peterson, *op. cit.*, p. 57.

Country	Number of IB World Schools	IB region	IB diploma schools
USA	1314	IBA	753
UK	211	IBAEM	205
Canada	311	IBA	141
India	87	IBAP	79
Australia	143	IBAP	62
Mexico	88	IBA	63
China	60	IBAP	52
Ecuador	51	IBA	50
Germany	52	IBAEM	49
Argentina	48	IBA	47
Switzerland	39	IBAEM	34
Poland	35	IBAEM	32
Sweden	39	IBAEM	31
Hong Kong SAR China	43	IBAP	24
Indonesia	36	IBAP	19

Note: IBA = IB Americas.

IBAEM = IB Africa, Europe, Middle East.

IBAP = IB Asia-Pacific.

IB World Schools offer one or more IB programmes; IB diploma schools offer the DP and may or may not offer other IB programmes.

Table 1.3 The 15 countries with the most IB World Schools in March 2012.

As the number of IB World Schools changes almost daily, any attempt here to give data is doomed to be out of date as soon as it is published. The IB public website (<http://www.ibo.org>) gives recent statistics on the number of schools and programmes offered. In March 2012, there were 4136 IB programmes in 3338 IB World Schools. Most of these (nearly 1640) are in North America and the IB Africa, Europe, Middle East (IBAEM) region has about 850. There are two examination sessions per year for the DP, in May and November. The November session is usually about 10% of the number of schools that register for the May session and accounts for about 7% of all DP candidates per year. The most amazing thing about the spread of the schools is that they are in over 140 countries. Of course, some countries may have only one IB school while others have hundreds, but the international nature of the IB cannot be forgotten when we consider the vast range of student nationalities, working conditions, different cultures and resource levels in these schools around the world. Table 1.3 shows the 'top fifteen' countries by number of schools in March 2012. This gives an indication of clustering of IB schools.

Some idea of the rate of growth of the IB diploma programme comes from the statistical bulletin published after each examination session⁶ (see Figure 1.2). There are IB hotspots around the world where the increase in

⁶<http://www.ibo.org/facts/statbulletin/dpstats/>

