

Current Trends in International Baccalaureate Programs

In the following report, Hanover Research provides an overview of research by scholars and professional organizations examining the efficacy of International Baccalaureate (IB) programs. The first section of the report outlines the fundamental curriculum and structure of IB programs, chronicling studies and accounts aimed at determining the general effects of participation in IB programs. Subsequently, the report focuses more narrowly on IB programs in independent schools, then closes by providing a series of case studies for all levels of IB programming—the Primary Years Program, the Middle Years Program, and the Diploma Program.

International Baccalaureate in Principle and Practice

To date, the IBO is involved in **3,067 schools in 139 countries**, with a total of 876,000 students participating in its programs.¹ Among these schools, 1,513 are found in the North American/Caribbean region.² However, there are only 108 IB World Schools in the United States that are classified as independent or private.³ Certain themes from the International Baccalaureate Organization's (IBO) mission statement differentiate it from most purely academic organizations. Among these, "peaceful world," "intercultural understanding and respect," and "compassionate and lifelong learners" reflect IBO's global commitment.⁴

IBO's growth strategy emphasizes three factors: quality of the educational product delivered to schools and students, equal access to IB programs among students in member institutions, and an infrastructure that allows for the effective implementation of IB's collaborative learning processes. While planned growth allows IBO to maintain the reputation of the IB brand as it reaches new markets, it also serves to "ensure that the growth of the **IB benefits schools and students worldwide, not just an economic elite** who can most easily afford high quality programmes."⁵

This report outlines the current incarnation of IB, a system of three programs tailored to the developmental needs of three distinct age groups. As the following section will demonstrate, research into the methods and results of IB programs has prompted debate over the **measures of student success and perceptions thereof among students, teachers, and parents**. After a discussion of current research on IB effectiveness, the second section of this report provides a series of case studies of IB program implementation at both independent schools and public school districts. Finally, the report concludes with a summary of key findings.

Three IB Programs

IB offers international education programs for a full spectrum of students: the **Primary Years Program (PYP)**, for ages 3 to 12, the **Middle Years Program (MYP)**, ages 11 to 16, and the **Diploma Program (DP)**, for ages 16 to 19.⁶ The DP was established as IB's charter program in 1968, while the PYP and MYP were added to form the "Three Programmes" continuum in the mid-1990s. By building curricula

¹ "IB fast facts." International Baccalaureate Organization. www.ibo.org/facts/fastfacts/.

² "IB World School Statistics." International Baccalaureate Organization. www.ibo.org/facts/schoolstats/progcombinationsbyregion.cfm.

³ "Country information for United States." International Baccalaureate Organization. <http://www.ibo.org/country/US/index.cfm>.

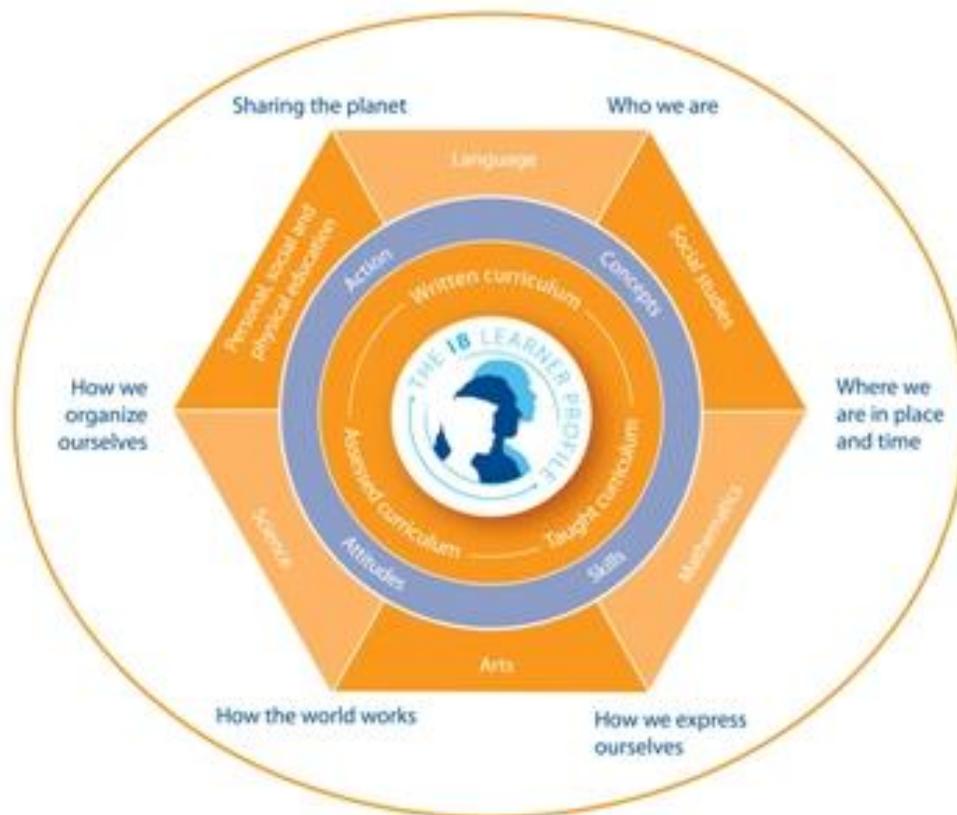
⁴ "Strategic Plan of the International Baccalaureate Organization (IBO)." International Baccalaureate Organization. <http://www.ibo.org/mission/strategy/documents/sp2004.pdf>.

⁵ "Strategic Plan." International Baccalaureate Organization. <http://www.ibo.org/mission/strategy/index.cfm>.

⁶ "Three programmes at a glance." International Baccalaureate Organization. <http://www.ibo.org/programmes/>.

for the younger programs around goals of the existing DP, a cohesive unit was formed across the age spectrum. Although schools with age-specific cohorts frequently offer only one program (such as the PYP in charter elementary schools or, more commonly, the DP in upper schools), some schools and districts with K-12 continuity have adopted some or all programs, giving students the option of a broad-spectrum IB education.

The curriculum of the **Primary Years Program**, as with each IB program, is represented by a standard model, shown in the PYP hexagon below. Surrounding more traditional subject areas of language, social studies, mathematics, arts, science, and personal, social and physical education (the one less common variant), six “**transdisciplinary themes**” appear.⁷ Each theme straddles the line between two subject areas, indicating which subjects in the curriculum are used to address a transdisciplinary theme. For instance, the theme, “Who we are,” is composed of both “Language” and “Social studies.”



Source: IBO

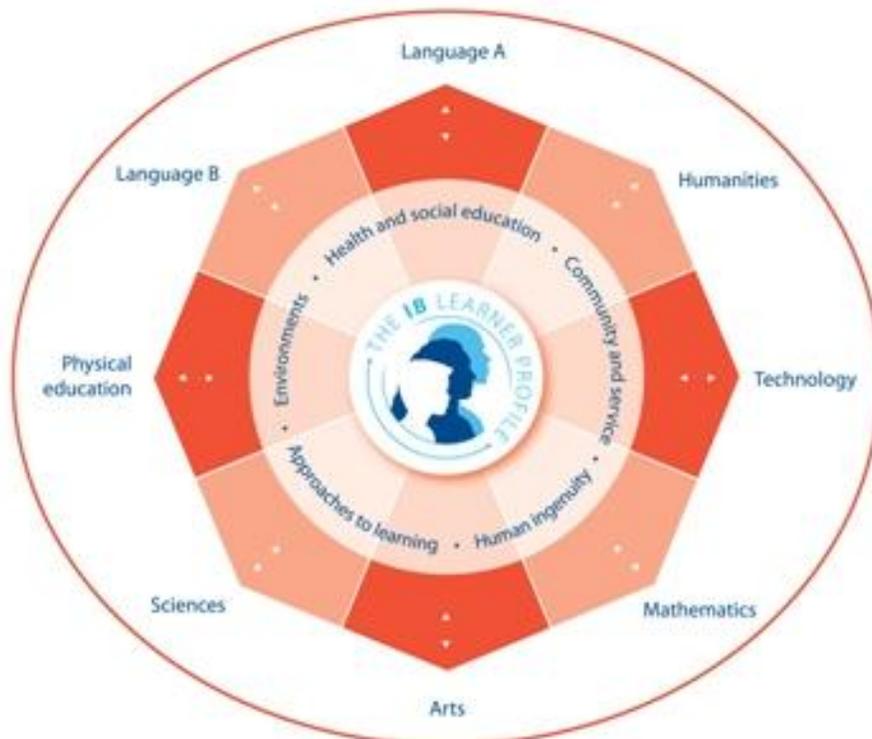
Likewise, the overlapping patterns translate to **interconnectedness** among five “essential elements”—concepts, skills, attitudes, and action—and the three

⁷ “Primary Years Programme: Curriculum framework.” International Baccalaureate Organization. <http://www.ibo.org/pyp/curriculum/index.cfm>.

components of the basic curriculum model.⁸ The overall effect in this design is to deconstruct boundaries between subjects, **encouraging young students to make connections between disciplines** that are traditionally regimented. This method, according to IBO, gives students a realistic perspective of a world that is also interconnected, while **laying the foundation for the critical thinking skills used in the MYP and DP**. Practical application of the PYP curriculum can be observed in the case studies section of this report.

The model for the **Middle Years Program**, in contrast to the PYP, depicts the addition of two subject areas, a **second language and a technology sector**. In justifying the addition of a second language to the curriculum (toward the eventual goal of fluency), IB asserts that “learning another language greatly contributes to the holistic development of students and is believed to raise achievement in other subject areas.”⁹ The technology requirement is generally flexible and varies by each school’s support capabilities.

Fluid, **interdisciplinary connections**, as depicted in the model below, guide curriculum planning. Three concepts drive the MYP curriculum—**intercultural awareness, holistic learning, and communication**—with each concept further reinforcing the theme of connections.



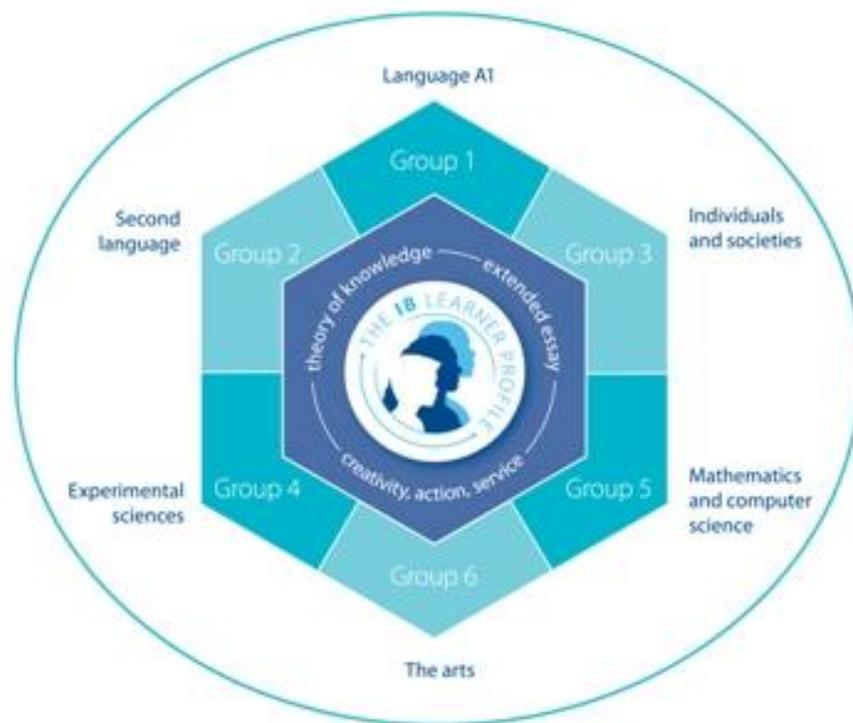
Source: IBO

⁸ Ibid.

⁹ “Middle Years Programme curriculum.” International Baccalaureate Organization. <http://www.ibo.org/myp/curriculum/index.cfm>.

Another feature of the MYP is the “**personal project**,” around which the model revolves. The concept is **similar to a thesis portfolio** at the postsecondary education level, preparing the student for such reflective tasks. Under a teacher’s supervision, a student completes the personal project in the final year of the MYP, and, as the project “must reflect a personal understanding of the areas of interaction,” it **synthesizes the cumulative lessons and skills taught throughout** the program.¹⁰ Refer to the case studies section of this report for practical application of the PYP curriculum.

In the **Diploma Program**, the curriculum returns to the hexagonal model depicted below. As expected, this two-year program is the **most demanding of the IB programs**, in terms of both requirements and quality of work input/output. This applies to both students and schools implementing the program. In order to ensure an institution’s capability to support the DP, each must be authorized as an IB World School.¹¹ **IB World Schools are subject to continual review and must adhere to developing IB global standards** to maintain their status. For a student seeking an IB diploma, core requirements include an extended essay, completion of a Theory of Knowledge (TOK) course, and active participation in the his/her institution’s Creativity, Action, Service (CAS) program.¹²



Source: IBO

¹⁰ Ibid., “project.”

¹¹ Complete steps for this application/review process are provided by IBO at <http://www.ibo.org/become/index.cfm>.

¹² “Diploma Programme curriculum—core requirements.” International Baccalaureate Organization. <http://www.ibo.org/diploma/curriculum/core/>

The **extended essay** involves an “independent and self-directed” study on a topic of the student’s choosing and a synthesis of those findings in a 4,000-word essay.¹³ The project also involves a “thesis advisor,” of sorts, a mentor role in which a teacher from the school gives feedback and direction throughout the process. The TOK course is created by the school as an additional philosophical element, while CAS activities take place outside of the classroom, with each student completing a minimum of three hours of community service-type activities per week. Practical application of the DP curriculum can be observed in the case studies section of this report.

A Review of Research Relating to IB Programs

As stated earlier in the report, nearly 900,000 students currently participate in IB programs, and, **over the last five years, IB has experienced a 20 percent growth annually.**¹⁴ With such a breadth of influence on the future of students worldwide, evaluation of the overall quality and effectiveness of IB programs is essential. Furthermore, considering the great rigors of the IB program and its growing use in secondary education, providers must ensure that the program is providing the intended long-term benefits to its participants.

A 2006 study, published in the *Journal of Secondary Gifted Education*, described the need to evaluate the benefits of IB programs, particularly at the Diploma Program (DP) level:

Anecdotal evidence strongly suggests that students enter the IB DP with **high expectations of themselves.** They hope to maintain the high grades that they have achieved in previous years, and they hope to be well prepared for postsecondary studies upon graduation from high school. They also carry with them the **high expectations of their families, friends, and teachers.** These hopes and expectations, coupled with the demands of the IB curriculum itself, **can lead to a stressful situation** for IB candidates. The resultant stress leads students, parents, and teachers to ask if the pressures and challenges these students face are worth the final result. Are there long-lasting benefits to having been in the IB Program that compensate for the time and effort demanded by the IB DP?¹⁵

Indeed, many studies and research efforts conducted by the IBO have sought to answer the question of the long-term effects of IB education. Due to the crucial relationship between success in the DP and the transition to higher education, almost all of the existing research relating to IB education looks exclusively at the DP.

¹³ Ibid.

¹⁴ “Strategic Plan.” Op. cit.

¹⁵ Taylor, M. and Porath, M. “Reflections on the International Baccalaureate Program: Graduates’ perspectives.” *Journal of Secondary Gifted Education*. Vol. XVII, No. 3. 2006. . 7.
www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/2a/e8/76.pdf

Because of this there is only limited research regarding the Primary Years Program (PYP) and the Middle Years Program (MYP). As such, the following review focuses primarily on the DP.

The Last Twenty Years

According to a 1991 internal study by the IBO, participation in the **Diploma Program correlates with postsecondary success**. The study of IB students at 26 universities in the United Kingdom revealed that 98 percent of IB students at these universities went on to complete honors degrees after graduating from the IB DP.¹⁶

In 1992, University of Florida researcher Jaime Torre-Halscott conducted a study to determine if a relationship existed between certain variables and high levels of performance in the IB program.¹⁷ These variables included “intelligence, gender, GPA, teacher predictions of success, and parental environmental process variables.” Among these variables, only one—**teacher predictions of student success—was found to have an impact on a student’s performance** in the IB program. According to the study, IB teachers and administrators described successful IB students as “gifted, inquisitive, scholarly, tenacious, emotionally mature, academically motivated, well-organized, analytical, verbally talented, academically focused, independent thinkers...from supportive homes with parents who are college graduates.”

A Purdue University study in 1999 sought to discover “whether earning an International Baccalaureate diploma was a predictor of success at university and beyond.”¹⁸ This descriptive study, which surveyed registrars from 12 U.S. universities,¹⁹ found that **completion of the DP was “an effective predictor of completion of a first degree at university.”**²⁰ The study found that, among IB diploma graduates, 92 percent earned Bachelor’s degrees while 87 percent did so in five years or less.²¹ In addition to degree-completion figures, the survey of 95 IB diploma holders asked for “reflections, as adults, on high school experiences, university performance, and career choice.” Fifty-four percent of these former IB participants had gone on to graduate school. Generally speaking, respondents expressed having **benefited from the challenging nature of the program** and its instrumental hand in preparing students for the rigors of postsecondary education.

¹⁶ “A review of research relating to the IB Diploma Programme.” International Baccalaureate Organization. April 2008. 14. www.ibo.org/programmes/research/resources/documents/dpresearchreview.pdf

¹⁷ Ibid., 19

¹⁸ Duevel, L. “The International Baccalaureate Experience: University Perseverance, Attainment, and Perspectives on the Process.” Purdue University. 1999. <http://docs.lib.purdue.edu/dissertations/AAI9951943/>

¹⁹ The universities surveyed included: Columbia, Cornell, Georgia Tech, Harvard, Indiana-Bloomington, Purdue, Stanford, Texas-Austin, Illinois-Urbana, Virginia, Washington, and Wisconsin-Madison.

²⁰ “A review of research relating to the IB Diploma Programme,” Op. Cit., 14-16.

²¹ Duevel, Op. Cit.

By contrast, the two most commonly cited **negative aspects of the program were the “elitist atmosphere and workload stress.”** According to the study, “[r]espondents were more positive toward aspects that affected them as individuals, less positive where there was a need to work with, or rely upon others.” Other notable findings from the study included:

- ❖ 82 percent of respondents were employed in professions closely associated to their undergraduate majors.
- ❖ Over 50 percent indicated that the program influenced their careers through impacting college major choice, awareness of global, social and environmental topics, and desire to work internationally.
- ❖ Regardless of career, respondents felt that the most valuable classes were English (31 percent) and History (18 percent).
- ❖ The majority of adults who had been enrolled in IB programs were involved in community service (74 percent).
- ❖ The vast majority (90 percent) would encourage their children enroll in an IB program.²²

Another aspect of the study examined the relationship of the IB program to “educational stakeholders.” Although U.S.-participation in the IB program is generally limited to “gifted students,” the study pointed to the **benefits of the “more inclusive selection criteria” seen at international school IB programs**, leading to the recommendation of similar inclusion among U.S. secondary schools. Finally, certain aspects of the IB program were directly tied to the postsecondary success of participating students, including the breadth and depth of the topics covered, the role of IB in developing students’ productivity and study skills, the program’s emphasis on developing strong writing, research, and analytical thinking skills, and the development of a global perspective in students.

The results of a 2003 survey of IB seniors also indicated a number of related positive outcomes.²³ Although the IBO acknowledged the need for further research, the survey results pointed to **higher performance on standardized tests and higher rates of acceptance** at postsecondary institutions. These IB DP participants were also characterized by frequent “national recognition for...academic performance.” The primary results of the survey, as described by the IBO, are provided below:

²² Ibid.

²³ “2003 United States Student Survey of High School Seniors Participating in the International Baccalaureate Program.” International Baccalaureate Organization. 2007.
www.ibo.org/ibna/research/documents/2003StudentSurvey.US.pdf

- ❖ Respondents earned an average SAT or ACT score that was significantly higher than the average SAT or ACT score of the total population.
- ❖ The DP candidates' mean SAT or ACT score was significantly higher than the mean SAT or ACT score obtained by Certificate candidates.
- ❖ 98.5 percent of respondents from the IB program applied to a university or college, and "IB acceptance rates into universities and colleges were higher than acceptance rates of the total applicant population."
- ❖ "A considerable number of participants in the IB DP received recognition from the National Merit Scholar, National Achievement Scholar, and National Hispanic Scholar programs."
- ❖ Scores on the IB and AP exams were comparable.²⁴

According to the IBO, a number of subsequent surveys have been conducted by IB New York with the goal of determining the relationship between earning an IB Diploma and being admitted into a postsecondary institution. The results of these 2005-06 surveys indicated that "IB diploma holders had higher acceptance rates than other applicants to universities."²⁵

Perception of IB Program

Another area that substantial research has been devoted is perceptions of the IB program. In 2006, a study published in the *Journal of Secondary Gifted Education* addressed the views of IB DP graduates towards the program in three areas: "the curriculum, the stress graduates experienced while in IB, and their preparation for postsecondary studies."²⁶ The study collected the opinions of graduates and other individuals with close involvement with the program, who then provided "reflections about the program as a whole."

Regarding the curriculum, **respondents generally expressed positive views**, and the majority appreciated exposure to "a richer curriculum with a wider range of topics they could discuss in some depth," leading them to develop "good critical thinking skills." Despite this finding, a **"significant minority" of the study's participants reported an "excessive and very stressful" workload**, often experiencing anxiety over program demands and getting into college. This anxiety, however, may have led to the development of "good time management strategies," according to the study.

²⁴ Ibid., 3.

²⁵ "A review of research relating to the IB Diploma Programme," Op. Cit., 14-16

²⁶ Taylor and Porath, Op. Cit., 6.

Respondents also indicated the IB DP was instrumental in **preparing them for their postsecondary education and career success**. According to the study, 87.5 percent of the respondents indicated feeling “better prepared for introductory-level postsecondary courses than those not in IB,” while a majority also felt the program prepared them for higher-level university coursework. Among respondents, 62.5 percent were able to apply credits earned in the IB program towards postsecondary courses, although a number of these respondents “chose not to invoke that option for a variety of reasons.” Overall, IB graduates appeared to value their education and the rich curriculum offered by the IB program, despite additional stress. Furthermore, the IB graduates indicated that the depth and breadth of the IB program contributed to their postsecondary education and occupational success.

A key finding of the study was that **more universities appear to be adopting a favorable view** of the IB program. Between graduating classes of 1996 and 2000, an increase was seen in the number of IB credits accepted by postsecondary institutions.²⁷

Further contributing to data on perceptions of IBO programming, a recent survey involving universities in Australia and New Zealand found that “senior university representatives have a very high level of regard for the IB Diploma.”²⁸ Many university representatives expressed limited experience with IB graduates, but, nevertheless, **held a positive view of the program**. The survey component of the study asked these representatives to rate the significance of “seven aspects of the IB Diploma in helping to make it a successful program.” The results are shown in the table below:

**Perceived Importance of Various Aspects of the IB DP
Among Australian and New Zealand Universities²⁹**

Aspect of IB DP	Not Sure	Very Low	Low	Medium	High	Very High
<i>Spreading all subjects over two years</i>	13%	1%	12%	38%	27%	11%
<i>A 100-hour course on the theory of knowledge</i>	13%	6%	18%	23%	29%	13%
<i>150 hours of creative, physical and community service activities</i>	10%	5%	15%	33%	25%	12%
<i>A 4,000 word extended essay</i>	8%	4%	12%	23%	33%	19%
<i>The use of a range of assessment strategies</i>	8%	0%	2%	23%	50%	18%
<i>A broad curriculum with subjects in six different areas</i>	7%	0%	2%	24%	51%	16%
<i>Studying at least three subjects in depth</i>	6%	0%	7%	14%	50%	23%

Source: IBO

²⁷ Ibid., 7.

²⁸ Coates, H., Rosicka, C. and MacMahon-Ball, M. “Perceptions of the International Baccalaureate Diploma Programme among Australian and New Zealand Universities.” Australian Council for Educational Research. 2007. 7. www.ibo.org/programmes/research/resources/acerperception/documents/IBOPerceptionsReportFinal.pdf

²⁹ Ibid., 23.

Among the elements of the program that survey respondents were asked to assess, **most had positive views towards the use and range of assessment strategies, the broad curriculum, and the requirement that students must study three subjects in depth.** On the other hand, survey respondents expressed the least amount of certainty about the positive effects of “the extended essay, the study of theory of knowledge, and the creative, physical and community services component.”

The results of the study’s open-ended survey indicated that **universities felt that the IB DP “should be more widely adopted.”**³⁰ Participants stated that the program contributed to students’ “academic competence and capability...experience of greater breadth and depth...[and] internationalized educational experience with a greater emphasis on community engagement.” Only a small number of comments were critical of the program, citing negative elitism tied to the program or that it offered “no specific advantage over alternative preparations for university study.” Other respondents worried about “adjustment problems” related to the program or to its delivery to students.

Critique of IB Program

While many studies indicate benefits associated with the IB programs, some doubts exist regarding certain aspects of IB. Aside from the heavy workload and high stress level associated with IB, other studies have put forth critical analyses of the program. For instance, a study published by the National Research Council in 2002 sought to determine the quality of science and mathematics education for advanced students in Advanced Placement (AP) and IB programs. As stated in the report, “the kinds and levels of questions that appear on both the Advanced Placement and the International Baccalaureate examinations reinforce the emphasis on **broad but shallow coverage of topics.**”³¹ The report also asserted that a “perverse,” if unintended, effect of the both programs is that “the **exam-driven nature...** may cause the development of intellectual curiosity in students to fall victim to the pace of the courses—all in the name of ‘rigor.’”

Overall, the body of **research suggesting that IB students outperform non-IB students academically is incomplete,** and there may be concerns about the **biases of existing studies** because of frequent ties to the IBO itself. Many studies reviewed in this report point to the **need for additional independent research** regarding the positive/negative effects of participation in IB programs. As stated in a review performed by the North Vancouver School District, there is not enough research

³⁰ Ibid., 32.

³¹ Stanitski, C. “Learning and Understanding: Improving Advanced Study of Mathematics and Science in U.S. High Schools: Report of the Content Panel for Chemistry.” National Research Council. 2002. 15.
http://www.nap.edu/openbook.php?record_id=10364&page=15

supporting a definitive answer to the question of whether IB students outperform their non-IB peers.³²

Looking at factors outside of program results, Dr. Patricia Fioriello, an international education consultant, noted four of the most commonly presented arguments against IB programs in the United States:

- ❖ Expense of implementing the program,
- ❖ Flexibility of existing Advanced Placement (AP) programs,
- ❖ Physical accessibility of schools offering IB programs, and
- ❖ Among the harshest criticism, that IB is anti-American and anti-Christian.

“Critics,” she found, “have argued that IB’s multicultural themes promote values that conflict with traditional Judeo-Christian values. Some opponents have called it Marxist because the IBO is a signatory to the Earth Charter, a collection of global principles created in France in 2000.”³³

This more extreme reaction to the IB program has prompted its own line of research into attacks on both IB’s mission (to “create a better and more peaceful world through intercultural understanding and respect”) and its receipt of federal funding beginning in 2003. Some pin hostility toward IB on a “rather muddled rainbow of right-wing thought that has emerged in the US post-Cold War.”³⁴ Although **radicalized opposition may be more indicative of the “cultural wars”** between America’s ultra-conservative and liberal groups, the movement continues to shape public policy in some regions. Among prominent examples are anti-IB resolutions passed at Minnesota’s 2005 Republican State Convention and the decision by a Pittsburgh suburb school board to discontinue IB programs on the basis of its “secular, one world government ideology.”³⁵ In addition, Washington Post blogger, Valerie Strauss, noted 2010 protests of IB programs in Utah, Michigan, and Pennsylvania.³⁶

While polarized websites, like truthaboutIB.com, have a contingent of followers, (as evidenced by anti-IB groups on social media sites, such as Facebook, and student rants on the video-sharing website, You Tube), protests have likewise been staged in response to IB school closings, as recently as October, 2010, when a school board

³² Buchanan et al., Op. Cit., 17.

³³ “Pros and Cons of International Baccalaureate Program.” DRPFConsultants. <http://drpfconsults.com/pros-and-cons-of-international-baccalaureate-program/>.

³⁴ Bunnell, Tristan(2009) "The International Baccalaureate in the USA and the emerging 'culture war'", Discourse: Studies in the Cultural Politics of Education, 30: 1, 65.

³⁵ Ibid., 62.

³⁶ “Protesters call IB program un-American. Is it?” Washington Post. <http://voices.washingtonpost.com/answer-sheet/apibhonors/protesters-call-ib-program-un-.html>.

met to debate shutting down a North Carolina school due to high costs.³⁷ In sum, subjective **public perception is more difficult to gauge** than case study results.

Comparison to Other Curriculums

A number of studies have compared the IB program to other programs designed to prepare high-achieving students for postsecondary education. For example, a 1996 study in the *Journal Secondary Gifted Education* assessed the achievement levels of IB students as compared to students participating in traditional programs in Alberta, Canada.³⁸ In each of the disciplines examined by the study—biology, chemistry, and physics—**higher achievement levels were found for students in the IB program.**

Substantial research has been devoted to the differences between the IB and more common AP programs in North America. Some schools, such as Greely High School in Maine, have implemented IB curriculum alongside AP courses, allowing students to decide the merits for themselves.³⁹ According to the North Vancouver School District report, the main difference is that **“whereas Advanced Placement prepares students for college work in North America, the International Baccalaureate prepares students for an international range of universities.”**⁴⁰ This international focus appears in the design of IB’s history and language courses, while IB and AP are fairly similar in terms of their math and science offerings. Additionally, the **IB program is characterized by a more rigid structure**, while the AP program is founded more upon the idea that individual schools “should decide what the student ought to learn.” Unfortunately, substantial data is not available regarding the academic achievement levels of IB versus AP students.

³⁷ “Dozens protest Davidson IB closing.” The Charlotte Observer.

<http://www.charlotteobserver.com/2010/10/07/1746258/families-plead-for-davidson-ib.html>.

³⁸ Poelzer, G. and Feldhusen, J. “An empirical study of the achievement of international baccalaureate students in biology, chemistry, and physics- in Alberta.” *Journal of Secondary Gifted Education*. 2006.

³⁹ “International Program more popular in U.S. Schools.” Private School Information.

<http://privateschool.com/2010/07/international-program-more-popular-in-u-s-schools/>

⁴⁰ Buchanan, S., Douglas, L., Hachlaf, K., Varner, E. and Williams, P. “Evaluating the International Baccalaureate Programme: An IB Proposal for the Consideration of the North Vancouver School District.” University of British Columbia. 2005. 15. <http://slc.educ.ubc.ca/Masters/Buchanan.pdf>

Program Case Studies

The following section provides examples of U.S. schools where IB programs have been successfully implemented. The first portion is devoted to IB programs in independent schools, although descriptions and results from such programs are limited. The subsequent cases examine programs at each level of the IB, from the PYP to MYP to DP, including relevant examples from Ohio when available. For each school presented in this section, a discussion of the benefits experienced from implementation of an IB program is provided.

IB in Independent Schools

Although IB first came to the U.S. through private schools, U.S. programs have since taken root primarily in public school systems.⁴¹ According to IBO statistics, out of 1,204 IB World Schools in the United States, only 108 are classified as independent or private.⁴² With **less than 10 percent of IB institutions in independent systems**, studies of public schools dominate the scope of IB research. Nationally, **five independent schools offer a full-continuum (PYP/MYP/DP) IB curriculum**—Atlanta International School (Atlanta), Carrollwood Day School (Tampa), Dwight School (New York), Notre Dame Preparatory and Marist Academy (Pontiac, MI), and Washington International School (Washington, D.C.). Of these, information was available regarding the success of programs at Notre Dame Prep and Washington International.

Notre Dame Preparatory School (NDP)

NDP has not published statistical results from its IB programs, but it did offer a general overview of student progress and news. The most recent cohort of PYP students demonstrated **awareness of the world outside of the classroom** with a job fair, followed by a mock Chamber of Commerce meeting.⁴³ Parents were encouraged to participate in the curriculum and planning of their children's education through parent nights, each semester of the academic year. **2009 was the school's inaugural year with an authorized MYP**, established after three years of preparatory teacher workshops and planning sessions. The first year was marked by participation in the U.N.'s International Day of Peace, meteorology work for the Weather Channel, and extensive participation in community outreach and service projects. Finally, NDP saw its first class of DP graduates in May 2010, a milestone that afforded crucial feedback on its burgeoning IB program. Among their testimonies, students were found to **"consider themselves better thinkers and**

⁴¹ "International Program." Op. Cit.

⁴² "Country information for United States." International Baccalaureate Organization.
<http://www.ibo.org/country/US/index.cfm>.

⁴³ "IB Update." Notre Dame Preparatory and Marist Academy.
<http://www.ndpma.org/drupal/files/IB%20newsletter%20%2012-9-2009%20final.pdf>.

academic scholars, noticing most their ability to see the cross-curricular connections in their studies.”⁴⁴ In parallel to IBO’s mission statement, such feelings indicated early success in NDP’s program.

Washington International School (WIS)

With a long history of participation in all three IB programs, WIS is considered by some to be the gold standard, not only among independent IB schools, but for IB World Schools as a whole. Of its 63 upper school students, 97 percent were enrolled in the DP.⁴⁵ This exceeded the worldwide average by nearly 20 percent. WIS students also exceeded global averages in performance on their average subject marks and Diploma scores, by a substantial margin. These statistics suggest the **potential value of full-continuum implementation of IB programs across a K-12 curriculum.**

Ohio Independent Schools

Among the only two independent IB schools in Ohio, Central Catholic High School (Toledo) and Montessori High School at University Circle (Cleveland), both offer the DP as an alternative to traditional curricula, with no PYP or MYP programs offered by their feeder schools.

PYP Studies

At **King/Robinson Interdistrict Magnet School** the introduction of IB PYP programming was an integral part of the school’s plans to merge schools and upgrade its facilities. In an IBO report, the reasoning behind this transition to the “student-focused” PYP was described by program coordinator Cheryl Merritt:

It allows so much freedom to differentiate, to play to the strengths of the students while building on their weaknesses. And because it’s **inquiry-based**, their boundaries aren’t restricted. They’re allowed to explore and research and go as far they can. And the teachers can, too. They can be more creative in their instruction, think outside the box without being criticized and really get to know their students. In building on students’ weaknesses and building up their strengths, teachers are much more effective at getting students to accomplish the skills mastery they’re trying to acquire...**Our goal is to move all of our students from good to great** and we’re using IB as our tool to do that.⁴⁶

⁴⁴ Ibid., 1.

⁴⁵ “IB Diploma Program.” Washington International School. <http://www.wis.edu/academics/upper-school/ib-diploma-program/index.aspx>.

⁴⁶ “Primary Years Programme Case Study: Creating a Dynamic Learning Environment.” International Baccalaureate Organization. 2. www.ibo.org/actionkits/documents/CO_CaseStudy-PYPatKingRobinson.pdf

As a result of the PYP, the school now has a “uniquely open environment” founded on the program’s **“Essential Agreement,”** which involves teachers setting less rigid and “arbitrary” rules for the classroom.⁴⁷ Rather, **teachers “talk with their students to determine what rules are necessary** to make each individual classroom successful.” The rules established through this process are tied to specific consequences and rewards, ensuring that good behavior is rewarded and that the consequences of poor behavior are clear. Overall, the “Agreement” gives agency to the students in creating a positive learning environment.

Another successful element of the PYP at King/Robinson has been the **involvement of parents** in their children’s educations. Because of the “inquiry-based framework” of the program, parents “feel more connected to what’s going on in the classroom.” Parents also participate in various workshops on “strategies for positive reinforcement,” and they have partnered with the school to develop a “new kind of report card” for students, in which teacher assessments are paired with insights from parents.

Beyond these qualitative improvements to the educational experience of its students, the school has also recorded **quantitative evidence of the program’s effectiveness**, including:

- ❖ From 2007 to 2008, Developmental Reading Assessment (DRA) test scores increased by 26 percent for 2nd grade students and by 37 percent for 3rd grade students.
- ❖ 2nd grade IB students outperformed the combined scores of non-IB students in the school district by 10 percent on the District Wide Mini-Assessments.
- ❖ 3rd grade IB students scored 8-12 percent higher on January and April math assessments than other non-IB students in the district.⁴⁸

In Columbus, Ohio, the PYP was recently implemented at **Cassingham Elementary School**. The program, Ohio’s first Primary Years IB program, began in the summer of 2009,⁴⁹ setting the goal before Cassingham students to strive toward the IB student characteristics: “inquirer, thinker, communicator, risk-taker, knowledgeable, principled, caring, open-minded, balanced, and reflective.”⁵⁰ Teachers at Cassingham use these learner characteristics to “help maintain a **common language within the**

⁴⁷ Ibid.

⁴⁸ Ibid., 3.

⁴⁹ “Cassingham Attracting Visitors.” Bexley City School District.

http://www.bexleyschools.org/school_NewsArticle.aspx?artID=301&school

⁵⁰ “Understanding IB.” Bexley City School District.

http://www.bexleyschools.org/school_NewsArticle.aspx?artID=495&school

school community and guide more global thought in the classroom.” They devote at least one weekly planning period to creating and evaluating IB lesson plans.

As an additional incentive for the Cassingham staff, it has three years to accomplish recommendations from the IBO in order for its PYP program to sustain viability. Recommendations include the **improvement of assessment strategies and other instructional changes**. Several of the teachers have participated in the “Assessment for Learning” through the Battelle for Kids organization and IB of North America in order to accomplish these improvements. As Cassingham moves forward with its PYP program, it will focus on the achievement of both its students and the school as a whole.⁵¹

MYP Studies

The transformative power of the IB MYP is continually evident in **Chicago Public Schools** (CPS) and the communities it serves.⁵² While the DP has been in place at CPS since 1981, it was not until 1999 that the system implemented the MYP, tasked with “creating a continuum of learning that instills the values of academic excellence in students at a younger age.” Intuitively, CPS felt that the introduction of the MYP would help students transition more easily to the DP. To build this continuity, CPS joined each region with two MYP schools and one DP school. The implementation of these partnerships raised the number participating in the MYP from 669 students in 1999 to 2,800 students in 2004.

In support of these efforts, community organizations like the Beverly Area Planning Association (BAPA), applied for a grant to “start the school system’s first-ever cluster of IB schools.” This cluster has been instrumental in the success of the region’s IB program. Fadwa Hasan, a retired MYP coordinator for the Chicago Public School System, remarked on the benefits of the links:

Being able to offer both the MYP and the Diploma Programme has created continuity not only for students, but also for educators. **Students lay a strong academic foundation early on and teachers speak the same language**, even across schools, neighborhoods, and disciplines.⁵³

Although concrete data has not yet been released on the success of MYP students transitioning into the DP, the strength of anecdotal evidence has **resulted in a number of CPS primary schools introducing the PYP** as a way to further strengthen continuity and to promote student achievement. Also due to the success of the program, many CPS schools have expanded the MYP from the small programs

⁵¹ Ibid.

⁵² “Case Study: Building a Continuum of Excellence.” International Baccalaureate Organization. www.ibo.org/ibna/actionkits/documents/MYPCaseStudy.pdf

⁵³ Ibid., 2.

within their schools to a “whole-school model.” Moreover, the MYP at CPS is a strong example of a school system providing “a continuum of access and excellence for students,” in its transition toward full PYP/MYP/DP availability.

DP Studies

In order to identify factors contributing to low participation and performance in DPs, the IBO commissioned a pair of case studies examining two schools in the program, **Lamar Academy** (McAllen, Texas) and **Hillsborough High School** (Tampa, Florida).⁵⁴ Examination of these schools revealed a number of converging strategies used “for outreach and recruitment” and relating to “general program availability, early preparation, and student supports.” These strategies are particularly **relevant to institutions with startup IB programs at the DP level.**

Because **both schools were magnet programs**, they were relatively unrestricted by the geographic boundaries defining traditional public secondary schools. As such, more students were available for participation in the programs at Lamar and Hillsborough. Both programs took action to “increase rigor in the elementary and middle school grades,” as a way to prepare students for the DP.⁵⁵ Aside from implementation of MYP and PYP curricula within school districts, both Lamar and Hillsborough established “feeder” programs for students in 9th and 10th grade “to teach content and skills” designed to prepare students for DP.

Common outreach and recruitment strategies were also found at both schools, including mail campaigns among prospective students, informational open houses, and provision of shadowing opportunities for prospective students. Both schools communicated the idea that academic success is the result of “student motivation,” therefore expanding its reach beyond only “gifted” students. Meanwhile, the selection process of students at Lamar and Hillborough involved “academic performance information...teacher recommendations, essays or interviews, and other information...”

The success of these programs was also largely **dependent on the support systems** established at each school, from the school level to district and state levels. At the school level, “academic and social support” was provided to students, and the schools worked to foster “a sense of community” among DP students.⁵⁶ Specific school-level actions included, “keeping IB relatively small, requiring that all IB students attempt the full Diploma, and emphasizing the shared values that motivate students and teachers to participate.”

⁵⁴ Bland, J. and Woodworth, K. “Case Studies of Participation and Performance in the IB Diploma Programme.” SRI International, Center for Education Policy. 2009. 9. policyweb.sri.com/cep/publications/ParticipationPerformance-IBDiplomaProgramme.pdf

⁵⁵ Ibid.

⁵⁶ Ibid., 10.

Student performance was also recorded within these schools so that struggling students could be identified and assisted. At the district level, both programs had devoted leaders that arranged for professional development of employees, provided funding, and allowed the schools to make independent hiring choices. Meanwhile, at the state level, the programs were strengthened through IB-affiliate organizations, which “coordinate professional development, provide instructional guidance, and advocate for supportive policies.” As a result of advocacy initiatives, the programs have benefited from various “**college credit and scholarship opportunities** for IB Diploma recipients,” among other incentives arranged at the state level.

In addition to discussing the findings of case studies at these schools, the case study report presented a series of “lessons” to be learned from the success of programs at Lamar and Hillsborough. The **overarching lessons** from these case studies included:

- ❖ Expanding program availability;
- ❖ Focusing on early preparation;
- ❖ Engaging in targeted student outreach and recruitment;
- ❖ Considering the balance between selectivity and student persistence;
- ❖ Monitoring student progress and ensure the availability of academic assistance;
- ❖ Ensuring adequate district support for the DP; and
- ❖ Encouraging state entities to adopt policies that incentivize IB participation and the establishment of additional IB programs.⁵⁷

As a reference, the beneficial actions related to each of the lessons listed above are detailed in this report’s appendix.

Ohio DP Examples

Firestone High School, in Akron, Ohio, also recorded quantitative improvements in student performance as a result of implementing the DP. Firestone teaches six areas of the IB program: (1) Language A (the native language of the student), (2) Language B (a spoken foreign language), (3) Individuals and Societies, (4) Experimental Sciences, (5) Mathematics, and (6) Electives (Arts and design; ITGS, second science, or third language).⁵⁸

As a result, Firestone has seen an **86.21 percent Diploma pass rate, compared to 70.91 percent in Ohio** and 77.85 percent in the United States in 2002. Furthermore, the percent of Firestone students earning a four or above on the IB test was 86.7 percent, compared to 67.51 percent for Ohio and 83.28 percent for the United

⁵⁷ Quoted verbatim from: Ibid., 10-11.

⁵⁸ “IB: Program of Study.” Firestone High School. <http://www.akron.k12.oh.us/schools/445/program.html>

States.⁵⁹ These results have **remained consistent throughout the years**, and, in 2006, the number of Firestone students earning the full IB diploma continued to exceed the global average of 79.86 percent, with an 81 percent success rate.⁶⁰

⁵⁹ "IB Results 2002." Firestone High School. <http://www.akron.k12.oh.us/schools/445/results.htm>

⁶⁰ "About Firestone High School." Firestone High School. <http://www.firestonehigh.com/>

Key Findings

The body of research reviewed in this report strongly suggests that **participants in IB programs are characterized by high levels of academic achievement and are more frequently admitted into postsecondary institutions than peer students.** However, it appears to be unclear if the program itself is the direct cause of these desirable results, as many studies indicate that the gifted students selected for IB programs are inherently inclined towards greater achievement than their peers. The literature indicates that IB students are more likely to succeed in postsecondary education, and are able to use the skills they learned throughout the IB program in their future learning and career endeavors. In perhaps the strongest endorsement of the program; **90 percent of past IB participants would encourage their children to enroll in IB programs.**⁶¹

International perceptions of the IB program compliment the literature, noting **improvements in student performance and achievement attributed to the program.** National perceptions are inconsistent among a vocal minority, but this appears limited to groups in the U.S., with regard to fundamental values underlying IB curricula. Increasing numbers of teachers, students, and universities are adopting favorable views towards the IB program and its rigorous curriculum. At the same time, U.S. educators acknowledge that the IB program is more rigid in structure than AP programs, which may give teachers less leeway in designing lesson plans. Additionally, the **heavy workload and high stress levels** for students in IB programs were commonly noted in research studies, while some studies worried that the breadth of the subjects in the program result in potentially shallow or biased learning experiences.

Overall, case studies indicate that the introduction of IB programming at all levels can have **positive transformative effects on schools and the academic success of their students.** While it should be noted that many of these case studies are conducted and published by IBO itself, research suggests that IB programs generally record positive outcomes for participants.

⁶¹ Duevel, Op. Cit.

Appendix: Lessons from IB Diploma Programs at Lamar Academy and Hillsborough High School⁶²

Lesson	Recommended Actions
Expand program availability	<ul style="list-style-type: none"> ❖ Locating Diploma Programmes in diverse school districts is a first step towards ensuring access for students who are traditionally underrepresented in IB programs. ❖ School and district leaders might consider structuring their IB programs as magnets with the explicit intention of increasing accessibility to students across the district or locating programs in schools serving underrepresented students and encouraging these students to enroll. ❖ In working with schools and districts, IB should be sure to communicate that motivated students entering the program performing at, and even below, grade level have been successful in completing Diploma Programmes and that many such students have earned the full IB Diploma.
Focus on early preparation	<ul style="list-style-type: none"> ❖ Initiatives aimed at raising overall student achievement by increasing rigor in elementary and middle schools may help prepare larger numbers of underrepresented students for the academic rigor of the Diploma Programme. ❖ Structuring the Diploma Programme as part of a 4-year course of study, with students entering in 9th grade and receiving 2 years of aligned curriculum and supports prior to formally beginning Diploma Programme coursework at the beginning of 11th grade, provides early preparation that appears to contribute to student success.
Engage in targeted student outreach and recruitment	<ul style="list-style-type: none"> ❖ Districts and schools seeking to expand the reach of their IB programs should consider engaging in strategic efforts to inform prospective applicants from underrepresented groups of the program's value, explain the qualities that program staff are looking for, and dispel any misconceptions. ❖ Diploma Programme staff and district leaders should work with teachers and counselors of students in the prospective applicant pool to increase program awareness and encourage high-potential students to participate, perhaps nominating such students to program leaders. ❖ IB leaders might consider creating recruitment tools and training administrators regarding effective recruitment strategies.
Consider the balance between selectivity and student persistence	<ul style="list-style-type: none"> ❖ School and district leaders who seek to expand access to underrepresented students while providing sufficient preparation for success should reflect on the tradeoffs related to selectivity and expectations regarding student persistence and attainment of the Diploma. ❖ In particular, in expanding access, program staff should evaluate their capacity to support incoming students who may struggle with the rigor of the IB curriculum.
Monitor student progress and ensure the availability of academic assistance	<ul style="list-style-type: none"> ❖ Schools and districts should carefully monitor student progress and develop early warning systems to identify students at risk of getting off track. ❖ Schools and districts should assess the adequacy of their support systems and consider additional strategies for bolstering student support. Ample student support is especially important for schools with relatively open admission policies. ❖ IB should support networking among affiliate schools to enable sharing of best practices in the areas of monitoring progress and student supports.

⁶² Bland, J. and Woodworth, K. "Case Studies of Participation and Performance in the IB Diploma Programme." Op. cit.

Lesson	Recommended Actions
<p>Ensure adequate district support for the Diploma Programme</p>	<ul style="list-style-type: none"> ❖ District leaders have the capacity to substantially influence school-level IB program quality along several dimensions, including program design, staffing, funding, and teacher professional development. Districts considering adopting the Diploma Programme should be prepared to provide the supports necessary for student success. ❖ IB leaders are encouraged to promote the sharing of best practices among district leaders.
<p>Encourage state entities to adopt policies that incentivize IB participation and the establishment of additional IB programs</p>	<ul style="list-style-type: none"> ❖ IB should continue to encourage schools and districts to form or work with existing state or regional organizations to advocate for supportive policies at the state level. ❖ Likewise, schools and districts should work together to increase awareness of the value of the Diploma Programme among state policymakers.

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