Research on the Impact of IB Programmes

The Florida League of IB Schools Quarterly Meeting
Research across the IB

IB Global Research

- Programme Impact
- Programme development
- Quality Assurance
- Assessment
- Global coordination, support and services
Research Support

- International Education Research Database (IERD)

- Jeff Thompson Award

- Providing resources and material

- IB Journal of Teaching Practice

- Tracking and communicating research
Programme Impact Research

Purpose
• Critically analyze, demonstrate and enhance the value and impact of an IB education through our research

Strategy
• To partner with reputable and diverse research institutes and universities to investigate the value of an IB education by identifying the qualities and characteristics that distinguish IB schools, teachers and students

Intended outcomes
• Accumulate and disseminate a significant and credible body of empirical knowledge, both quantitative and qualitative, on the impact of IB programmes
### Programme impact research agenda and priorities

#### Learner profile
- To what extent do learners demonstrate characteristics of the IB learner profile?
- What distinguishes IB learners in levels of motivation, values, and attitudes?

#### Student performance
- How do IB learners perform on external measures of academic achievement?
- How do they compare with non-IB peers?

#### Standards
- How do IB standards compare to those at national/state levels?
- To what extent are IB graduates prepared for postsecondary success?

#### Programme implementation
- What is the impact/value-add of implementing IB programmes in schools?
- What changes, if any, result from the implementation of IB programmes?
- What are the enablers/inhibitors of successful implementation?

### Impact/value-add of IB programmes on learners and schools
# Programme Impact Projects

## Recently Completed

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Programme</th>
<th>Date</th>
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<tbody>
<tr>
<td>PYP and MYP Student Performance on the International Schools’ Assessment (ISA) Phase 2</td>
<td>PYP/MYP</td>
<td>March 2012</td>
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<tr>
<td>Student Performance and Student Engagement in the IB MYP</td>
<td>MYP</td>
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<td>IB Students’ High School and Postsecondary Experiences in Chicago Public Schools</td>
<td>DP</td>
<td>March 2012</td>
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<td>International Baccalaureate students studying at UK Higher Education Institutions: How do they fare?</td>
<td>DP</td>
<td>April 2011</td>
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<td>Postsecondary Enrollment Patterns of IB Certificate and Diploma Candidates from U.S. High Schools</td>
<td>DP</td>
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<td>Postsecondary Enrollment Patterns of IB Certificate and Diploma Candidates from International High Schools</td>
<td>DP</td>
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<td>First college courses taken by Florida IB students</td>
<td>DP</td>
<td>March 2011</td>
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<td>Programme Impact Projects</td>
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<td><strong>Underway</strong></td>
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<thead>
<tr>
<th>Programme</th>
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<tr>
<td>India PYP</td>
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<td>The Relationship between MYP Student Moderation Performance and DP Student Performance</td>
<td>MYP/DP</td>
<td>2012</td>
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<td>MYP UK</td>
<td>MYP</td>
<td>2012</td>
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<td>Continuation Study of IB MYP</td>
<td>MYP</td>
<td>2012/2013</td>
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<td>DP Extended Essay Series</td>
<td>DP</td>
<td>2012</td>
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<td>Enrolment and Achievement of IB DP Graduates in the Australian Tertiary Education Sector</td>
<td>DP</td>
<td>2012/2013</td>
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<td>IB Teacher</td>
<td>CONT</td>
<td>2012/2013</td>
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<td>DP Core Phase 2 TOK</td>
<td>DP</td>
<td>2013</td>
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<td>Civic Mindedness in the Americas</td>
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<td>DP/Postsecondary in China</td>
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<td>DP Implementation in Ecuador</td>
<td>DP</td>
<td>2013</td>
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## Programme Impact Projects

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<th>Upcoming</th>
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<td>PYP Implementation in Australia</td>
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<td>DP/Postsecondary in India</td>
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<td>2013</td>
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<td>College Readiness in the US</td>
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<tr>
<td>Curriculum Analyses and Comparisons between DP and National Systems</td>
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<td>(AEM)</td>
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<td>Bilingual Diploma Analysis</td>
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<td>2013</td>
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<td>Continuum Case Studies</td>
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<td>2013</td>
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IB Partners with leading researchers around the world

TEACHERS COLLEGE COLUMBIA UNIVERSITY

香港大学
THE UNIVERSITY OF HONG KONG

HESA
HIGHER EDUCATION STATISTICS AGENCY

The Hong Kong Institute of Education

RAND CORPORATION

The University of Chicago

McGill

THE UNIVERSITY OF WARWICK

ACER

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Standards

• University graduation rates of DP students generally higher than institutional and national averages in the US.
• DP students more likely to enroll in “somewhat selective” or “more selective” higher education institutions.
• Performance in the Diploma Programme (DP) was the best predictor of college performance.
• Key cognitive strategies in the DP aligned with expectations of university faculty.

Student performance

- On the International Schools’ Assessment (ISA), Primary Years Programme (PYP) and Middle Years Programme (MYP) students outperformed peers in mathematics, reading and writing in most grade levels.
- Instructional practices and student behaviours observed in IB classrooms were favourable compared to similar classrooms in Texas.
- Some evidence of improved performance in mathematics and science for MYP students in one school district.


Programme implementation

• Consistency of teaching, learning and assessment, coherence of curriculum and student support were associated with better transitions between programmes.

• Successful strategies for implementation of the PYP include whole-school immersion, collaborative planning, continuous training, strategies to promote family and community involvement, support by school leadership and coordinator.

• The most successful support service for Title I schools was professional development. Counselors training and involvement were important to access and college admissions.


IB learner profile

• In the US, IB students rated higher levels of academic, social and emotional engagement.
• MYP students were more likely to agree that “Overall, I feel good about being in this school”.
• DP students in college reported feeling prepared to succeed and, indeed, excel in their coursework.


POSTSECONDARY ACHIEVEMENT OF DP STUDENTS
Academic performance of IB students entering the UC system from 2000–2002
International Baccalaureate Global Policy and Research, 2010

- 1,547 DP students vs comparison group and UC students overall
- IB students generally earned higher GPAs and graduated at higher rates than comparison-group students and University of California students overall.
- Theory of knowledge and the extended essay positively correlated with college GPA.
- The experimental sciences DP group was most strongly associated with college GPA, followed by individuals and societies.
- Family income generally did not have a strong effect on college GPA (contrary to other studies).
GPA: IB students compared to UC students overall

<table>
<thead>
<tr>
<th>Year</th>
<th>IB students</th>
<th>UC students</th>
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<tbody>
<tr>
<td>2000</td>
<td>3.11</td>
<td>2.91</td>
</tr>
<tr>
<td>2001</td>
<td>3.12</td>
<td>2.94</td>
</tr>
<tr>
<td>2002</td>
<td>3.10</td>
<td>2.94</td>
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<td></td>
</tr>
<tr>
<td>2000</td>
<td>3.17</td>
<td>3.16</td>
</tr>
<tr>
<td>2001</td>
<td>3.02</td>
<td>3.02</td>
</tr>
<tr>
<td>2002</td>
<td>3.17</td>
<td>3.02</td>
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<td>After 2 years</td>
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<td></td>
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<tr>
<td>2000</td>
<td>3.30</td>
<td>3.16</td>
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<td>2001</td>
<td>3.26</td>
<td>3.17</td>
</tr>
<tr>
<td>2002</td>
<td>3.28</td>
<td>N/A</td>
</tr>
<tr>
<td>At graduation</td>
<td></td>
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IB students’ US post-secondary enrollment and performance (From high schools within/outside the US)
Center for Education Policy, SRI International, 2011

• Examined IB and NCES data to identify DP student college enrollment/graduation patterns

• US high schools (24,487 IB certificate/diploma):
  – 71% of IB students enrolled in full-time HEIs (US avg - 56%).
  – About 70% attended selective institutions (more for diploma candidates)
  – IB students’ 4 and 6-year graduation rates (64% and 81%) higher than US averages (36% and 57%), and were often higher than institutional averages

• Outside US high schools (1,919 IB certificate/diploma):
  – High-achieving group: 75% full diploma candidates; Mean score 5.4 (global: ~4.7)
  – Majority (~84%) enrolled in selective four-year institutions
  – Very high 4 and 6 year graduation rates (75% and 85%) and very often higher than institutional rates
Four-year graduation rates at top US destinations

Top five destinations for US students

- U of FL: IB Students 72, Institution 53
- George Mason: IB Students 38, Institution 31
- U VA: IB Students 89, Institution 84
- U of CO-Boulder: IB Students 70, Institution 41
- UNC-Chapel Hill: IB Students 58, Institution 71

Top five destinations for international students

- Upenn: IB Students 81, Institution 87
- Colby College: IB Students 88, Institution 88
- Harvard: IB Students 93, Institution 88
- NYU: IB Students 86, Institution 78
- USC: IB Students 69, Institution 66
Performance in first college courses of Florida IB students
Center for Education Policy, SRI International, 2011

• Examines the relationship between IB exam performance and university course performance in the same subject
  – physics, chemistry, biology, mathematics, English, Spanish and French.
  – 4,845 IB students who graduated from Florida high schools between 2000 and 2005 and entered the University of Florida the next fall
• A positive association between IB subject exam scores and grades in first college courses in that subject
• Overall, 59% of students who scored a 6 or 7 on an IB exam earned an A in their first college course in that subject
• College course choice varied more by performance than level (SL/HL)
Working to my potential: The experiences of Chicago Public Schools students in the IB DP
Chicago Postsecondary Transition Project at the University of Chicago, Consortium on Chicago School Research, 2012

• Examined data on DP students from 12 CPS high schools
  – compared with matched sample
  – Interviewed 25 DP students reflecting the diversity of CPS IB students

• Compared to matched group, DP students more likely to:
  – go to college; go to a selective college; persist in college for two years.*

• DP students in college reported:
  – feeling prepared to succeed and, indeed, excel in their coursework
  – strong academic skills, work ethic, motivation, time management and willingness to seek help
  – preparation in the DP as the source of their success as college students.
College attendance and persistence: DP students vs. control group

- Attending a Four-Year College: IB Diploma Programme Students (77.2%**), Comparison Group (53.3%)
- Attending a More Selective College: IB Diploma Programme Students (57.0%**), Comparison Group (38.1%)
- Persisting in a Four-Year College for Two Years: IB Diploma Programme Students (80.3%**), Comparison Group (71.0%)

** = p-value < 0.01, * = p-value < 0.05, ~ = p-value < 0.10

Note: Students in this figure graduated between 2003 and 2007. They represent all students who enrolled in the ‘pre-IB’ programme in the 9th grade and then enrolled in the formal 11th grade DP, as well as a set of matched students with similar characteristics.
High school student engagement among IB and non-IB students in the United States: A comparison study

IB Global Policy and Research Team, in collaboration with the Center for Evaluation and Education Policy, Indiana University

2010
Study design

• High School Survey of Student Engagement (HSSSE)
  – administered by Indiana University to US high schools
  – measures three broad dimensions of school engagement: academic, behavioural, emotional

• Eight IB schools participated; sponsored by the IB.
  – N = 7,692 in grades 9 through 12 (IB students = 3,499, non-IB = 4,193).
  – schools vary in size, demographics and location

• National sample (included an additional number of IB schools).
  – N = 42,754 in grades 9 through 12 (IB students = 6,720, non-IB = 36,034).
Key findings

• IB students are significantly more likely than non-IB students to feel engaged and challenged in school.

• IB students are significantly more likely to report they could:
  – write and speak effectively
  – think critically
  – solve real-world problems
  – learn independently
  – work well with others.

• IB students spend significantly more time:
  – studying for class
  – doing written homework
  – doing volunteer work
  – participating in school-sponsored activities
Levels of engagement
Data from the 2009 HSSSE

Mean scores for student responses to questions relating to the dimensions of academic engagement (scale of 0-65); emotional engagement (0-39); social engagement (0-17). Comparisons are against a targeted matched sample. Differences are in the 9-16% range.
Student performance, student engagement and school climate and in the Middle Years Programme

Julie Wade

2011
Study design

• Performance and engagement of students enrolled in five MYP middle schools compared with five demographically similar non-MYP schools in the same US public school district.

• Qualitative and quantitative data collected using:
  – assessments
  – report card grades
  – *Middle Grades Survey of Student Engagement*
  – attendance and suspension data
  – a survey of school environment
  – interviews with principals

• Controlled for race/ethnicity, FARMS services, special education services, enrollment in ESOL classes, gender and, when possible, previous test performance.
Key findings

• Some evidence of improved performance in mathematics and science for MYP students.

• Ratings of student engagement, for the most part, were similar for students in both groups.

• The overall rating of the school environment was higher for MYP students, and a higher percentage agreed that “Overall, I feel good about being in this school”.

• All five MYP principals noted interdisciplinary learning as a positive influence, and four identified teacher training and the support of the MYP coordinator as important benefits.
Evaluation of International Baccalaureate programmes in Texas schools

State of Texas Education Research Center at Texas A&M University
2010
Study design

• Mixed-methods evaluation study examining the impact of the PYP and MYP in Texas classrooms.

• Quantitative component
  – 22 PYP and 21 MYP schools
  – analysis of secondary data, Texas Assessment of Knowledge and Skills (TAKS) mathematics and reading, compared to a non-IB comparison group
  – control schools for IB schools selected by matching demographic variables.

• Qualitative component
  – eight case study schools (four PYP and four MYP)
  – interviews and classroom observations
  – examined: teachers’ instructional practices; students’ learning experiences; features of IB instruction and transdisciplinary themes of global significance
Key findings

• No significant differences between IB and comparison schools in TAKS mathematics and reading achievement.

• Observed more frequent favourable instructional practices and student behaviours and activities in IB classrooms.
  – while suggestive that the overall quality of instruction is higher at IB schools, implementation varied from school to school.

• Positive outcomes identified by teachers and administrators:
  – increased teacher collaboration; authentic assessment; increased student motivation; development of critical-thinking skills; increased student global and cultural awareness.

• Challenges included:
  – staff recruitment and retention; balancing IB with state and district requirements; time needed for collaborative lesson planning; difficulty and workload for students; student mobility; lack of support from districts, parents or teachers.
Where to find research:

- http://www.ibo.org/research/
  - http://www.ibo.org/research/resources/
- http://research.ibo.org
- http://blogs.ibo.org/positionpapers/
- Regional newsletters, Coordinators’ Notes, OCC, etc.

research@ibo.org