

The impact of the IB Diploma Programme in public schools in the United States serving students from low-income households

Research summary

Summary developed by IB Research, based on a report prepared by: Ursula Aldana, Anysia Mayer and Jongyeon Ee
January 2020



Background

This study examines the high school and post-secondary experiences of International Baccalaureate (IB) Diploma Programme (DP) students in Californian public schools serving students from predominantly low-income households with little or no history of college-going.¹ At the high school level, the study explores DP student experiences and levels of engagement and motivation compared to those of non-DP students. The study also investigates the extent to which the DP is associated with preparedness, academic success and resilience at the post-secondary level.

Research methods

This study employed a mixed-methods case study approach focusing on three large high schools in California with a substantial proportion of low-income and under-represented minority students.² The high schools are located in different geographical areas of the state: northern, central and southern California. The study included the following four main components.

- Surveys of DP students (year 1: $n = 1,077$; year 2: $n = 310$)

¹ “College-going” in this context means attending a higher education institution.

² Over 80% of students were from low-income families and more than 70% of students identified as Latino.

- School visits and interviews with DP students ($n = 36$) spanning three years
- Analysis of quantitative data from former IB and non-IB students in the University of California (UC) system (total sample $n = 100,046$; IB sample $n = 3,241$)
- Interviews with DP alumni enrolled in higher education ($n = 10$)

Data were collected from DP students over several years (2015–2019) as they progressed from juniors or seniors in high school to first-year university students. Researchers analyzed data from the UC system to address questions relating to the post-secondary performance of DP students in comparison to non-IB students. Lastly, DP alumni were interviewed to explore the extent to which past DP participation supported positive post-secondary experiences and outcomes.

In the surveys to DP students, the researchers identified three groups for comparison in this study: DP candidates, DP course students and non-IB students.³ **DP candidates** were those who planned to complete all of the coursework and requirements of the full DP. **DP course students** included those who were taking one or more DP course and planned to take the corresponding DP exam(s) (including those taking selected DP courses or Career-related Programme (CP) students). **Non-IB students** were those who were not enrolled in an IB programme—these students were used as a reference group to examine the impact of IB programmes on students' educational experiences.

Findings

Student experiences in the DP

Academic rigor

Students valued the DP for providing a level of academic rigor that was integral for succeeding in college. In particular, most if not all students suggested that they enrolled in the IB programme because it could

provide a college preparatory curriculum. As adjusting to the workload of the DP was a challenge for many students, staff at the three schools developed support systems to help students acclimate to the rigor of the programme, build study skills and persist towards their academic goals.

Relationship with IB teachers and coordinators

Based on the findings of this study, the importance of teacher and counselor support for DP students cannot be overstated. Students indicated that teachers helped to foster a college-going culture and supported students in their college applications. The students at these high schools felt supported both in their academic pursuits and on a social-emotional level, and appreciated the effort put forth by IB teachers and coordinators. As one student remarked, *"I get along with all my IB teachers. I love all of them. It's because we're closer I don't know, it's just the environment is better. And the way that the teachers help and make an extra effort really helps me ..."*

Supporting bilingualism

In this study, the overwhelming majority of students in the DP were heritage language (Spanish) speakers. From a curricular and policy perspective, IB programmes offer a particularly attractive alternative for meeting the needs of heritage Spanish speakers by supporting bilingual language development. For the Latino students in this study in particular, the DP has the potential to improve their educational experience not only through rigorous instruction in two languages, but also through a culture of learning that aims to reduce prejudice and values diversity.

DP student engagement and college aspirations

In this section, researchers analyzed survey data from students in the first and second years of the DP. Learning and classroom-related domains that were featured in the surveys included: learning, classroom rigor, classroom engagement, school engagement and teacher–student relationship. College-related domains included: college-going culture, college advising and college aspirations.

³ In the full report, the authors refer to "DP candidates" as "full DP students" and to "DP course students" as "partial DP students".

Measures of learning and engagement

The findings from the study indicate that, overall, DP students experience more rigorous classes, are more motivated, and are more engaged than their non-IB peers.

Results of regression analyses showed that DP students were more satisfied with their educational experiences than non-IB students, when controlling for student demographic characteristics, academic achievement and high school affiliation. Specifically, DP candidates had significantly higher scores than non-IB students on measures of learning, classroom rigor, classroom engagement and school engagement. DP course students also scored significantly higher than non-IB students on measures of classroom rigor, classroom engagement and school engagement in year 1, although the differences were not statistically significant in year 2. With regard to teacher–student relationships, in year 1, DP students did not differ significantly from non-IB students. However, in year 2, DP candidates reported significantly higher scores than non-IB students on the teacher–student relationship measure.

Measures of college aspirations

In predicting a student's college aspirations, after controlling for student characteristics, the results showed that students in IB programmes were more likely to have strong plans for higher educational attainment compared to their non-IB counterparts. These differences were statistically significant in both years 1 and 2. Interestingly, compared to non-IB students, DP candidates and course students were significantly more likely to report experiencing a positive college-going culture and receiving college advising support.

Post-secondary outcomes of IB students in the UC system

This section is based on information from the UC Office of the President longitudinal data set and included data from the freshman cohorts who entered the UC system between 2006 and 2008. To estimate the effect

of participation in the DP on student post-secondary outcomes, researchers matched IB students with their non-IB peers from the UC system.⁴ The IB sample used in these analyses included only students who registered for eight or more IB semester courses while in high school ($n = 3,241$).

SAT scores and high school grade point average (GPA)

IB students had significantly ($p < 0.001$) higher average SAT scores (1,801) than non-IB students (1,699). Additionally, there was a statistically significant ($p < 0.001$) difference in the high school GPAs of IB students ($M = 3.85$) and non-IB students ($M = 3.78$).

Post-secondary outcomes

IB students tended to perform slightly better than non-IB students in all but one of the post-secondary retention and graduation indicators. In particular, the study found significant positive effects of IB participation on first- and second-year retention rates and on five- and six-year college graduation rates. The results related to four-year graduation rates were inconclusive. Lastly, IB students also had slightly higher GPAs at graduation, although the difference was not statistically significant.

Under-represented minority students

Researchers also conducted analyses for the subset of under-represented minority DP students in the UC system sample. The study estimates that the effects of participation in the DP for under-represented minority students followed similar trends, although with slightly larger magnitudes than those for all DP students. This implies positive impacts of the DP on under-represented minority students in particular.

Perspectives of DP alumni

Preparation for college

To examine the college experiences of former DP students, researchers interviewed 10 DP alumni over the course of their post-secondary schooling. DP alumni reported that the DP helped prepare them for the rigors of college coursework, particularly in the areas of writing, study skills and time management.

⁴ Propensity score matching and nearest neighbor matching were used to obtain unbiased estimates of impact. Post-matching analyses based on stratification of the propensity scores were also conducted.

Many pointed to written and verbal DP assignments as especially helpful preparation for college courses. As one former DP student noted, *“I feel that the IB programme gave me an advantage in my writing and communication skills, as I have had lots of practice with public speaking and writing from assignments that I had to do back in my high school years”*. Additionally, students described how their high school DP English, history and theory of knowledge courses had helped to develop critical thinking skills, which were useful in their college studies.

Based on this longitudinal sample, participants maintained a level of optimism and resilience as they faced a multitude of personal, financial, family and academic problems. Despite these challenges, DP college students believed that they would be able to overcome any issues because they had learned to ask for help when they needed it. Students often referred to their IB experience as the first place they had learned to ask others for academic support. One student shared the following.

“I’m definitely not afraid to speak up in class or to ask a question, or go see a professor during their office hours. The majority of the teachers that I’ve interacted with, here on the college campus, really like a student who is taking that extra step, who has the initiative to get a better understanding to do well. I do not think that if I hadn’t been in IB that I would still be willing to take that step”.

Teacher and peer support

Similar to current DP students, DP alumni pointed to the importance of IB teachers who not only helped them with coursework but also with college applications. Students told stories of many teachers who supported them during the DP; for example, one student remarked as follows.

“[My teacher] would do extra stuff, like on weekends she would host study sessions right before the exams and those helped out a lot And other teachers as well, they did study sessions and stuff like that, a lot of teachers did study sessions, some after school hours so I don’t think they received any benefit out of it, it was just them doing what they thought was helpful for us”.

In some schools, IB coordinators developed peer groups that provided an accountability and support system for students. Interviews with students revealed that many students also turned to their IB peers for academic and social support. Despite challenges with the workload, students agreed that their experience with managing the IB programme along with their personal lives helped them to effectively manage their time in college.

Summary

DP students pointed to the academic rigor of the DP and supportive teachers and administrators as having a positive influence on their high school experience and preparedness for college. The findings indicated that DP students experience more rigorous classes, are more motivated, and are more engaged than their non-IB peers. Data from the UC system showed that, compared with non-IB students, IB students had on average both higher SAT scores and high school GPAs. Results also indicated positive and significant effects of IB participation on college retention and graduation rates. Lastly, DP alumni reported that the DP helped prepare them for the challenge of college coursework, particularly in the areas of writing, critical thinking, study skills and time management.

This summary was developed by the IB Research department. A copy of the full report is available at: www.ibo.org/en/research/. For more information on this study or other IB research, please email research@ibo.org. To cite the full report, please use the following: Aldana, U, Mayer, A and Ee, J. 2020. *The impact of the IB Diploma Programme in public schools in the United States serving students from low-income households*. Bethesda, MD, USA. International Baccalaureate Organization.