Research on the Implementation of the Diploma Programme in Ecuador's State Schools

FINAL REPORT

May 2013

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We have a clearer "North" toward which to direct ourselves and our students.

DP teacher

Introduction

The country of Ecuador boasts one of the largest populations of Diploma Programme (DP) participants in Latin America with 708 DP candidates in 2011. There are currently 51 IB-authorized schools in the country, including 50 offering the DP, six offering the PYP and six offering MYP (several schools offer combinations). Ecuador has shown an exceptionally high level of support for IB education: the Ministry of Education (MOE) undertook an initiative beginning in 2006 to support the development of a DP in each of the country's 24 provinces. Subsequently, based on President Correa's conviction that Ecuadorian secondary education could be vastly improved by following the DP model, it was decided to dramatically expand the number of state schools participating.

Because of the high level of interest of the Ecuadorian government, as well as to advance its own knowledge of school development and school transformation, IB entered into a contract with the National Center for Education, Schools and Teaching (NCREST) at Teachers College, Columbia University to conduct research on the DP in Ecuador. NCREST has a particular interest in high school reform models, and is comprised of researchers skilled in quantitative and qualitative methods. NCREST has conducted the current research on the DP in Ecuador in collaboration with two highly regarded Ecuadorian research teams led by Dr. Tracey Tokuhama Espinosa from the University of San Francisco and Dr. Myriam Aguirre from the Pontifical Catholic University.

The Status of IB in Ecuador

Of the state schools with existing Diploma Programmes, most embraced DP as part of an initiative that began in 2006 when the Ecuadorian government decided to support the development of one programme in each of Ecuador's provinces. To accomplish this relatively modest goal, IB worked closely with the Ministry of Education and the Ecuadorian Association of IB Schools (Asociación Ecuatoriana de Colegios de BI or ASECCBI) to select, support, train and authorize state schools. As a result of these efforts, 17 state schools currently offer the DP in the country.[1]

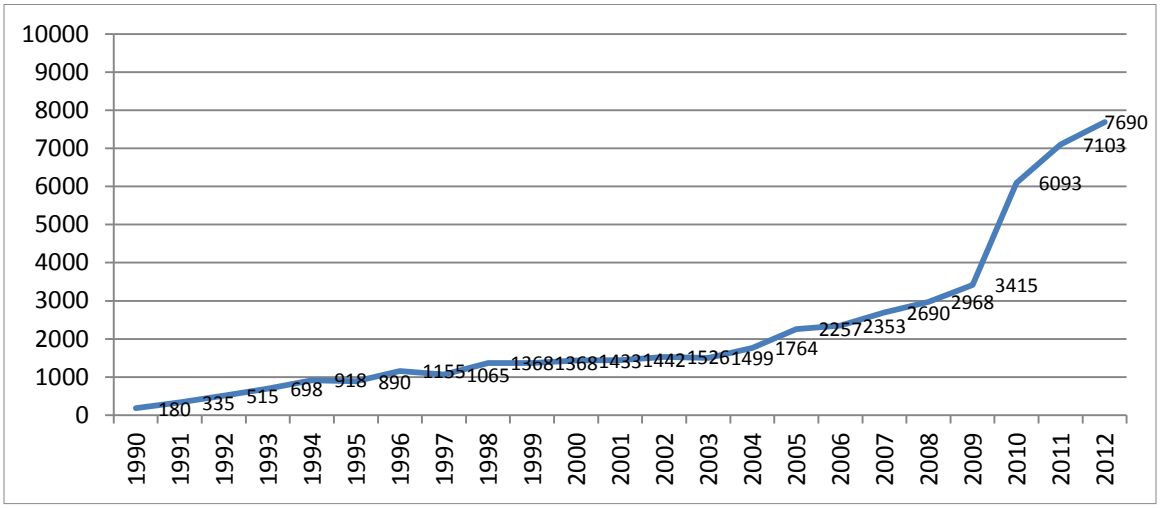
[1] Per the IB's report entitled *Ecuador Initiative 2006-2013* released in May 2013. An additional nine state schools are in the authorization process related to this initial phase of work.

More recently, the IB organization was given an unusual and important opportunity. The president of Ecuador asked IB to introduce Diploma Programmes into as many as possible of the country's approximately 1400 state secondary schools.

The new initiative is on a completely different scale. The current plan calls for 120 new Diploma Programmes to open in schools across Ecuador each year, beginning in late 2012. Of these, 60 will be in the coastal region and 60 in the highlands region. The Ministry of Education will manage this process, with support from the IB office in Buenos Aires, Argentina (2700 miles from Quito, Ecuador's capital) as well as from the IB-Americas office in Bethesda, Maryland, USA (2600 miles from Quito).

While the bulk of the growth is still ahead, there has already been substantial expansion in DP in Ecuador in the past decade. As can be seen in Figure 1, 1604 DP exams were taken in Ecuador in 2002; ten years later, in 2012, 8564 DP exams were taken or 534% more.

Figure 1: Number of DP exams administered per year in Ecuador



The Research

The purpose of the current project is "to examine the implementation and impact of the IB Diploma Programme in Ecuador with a focus on school culture, teacher practice, and student scholastic and non-scholastic outcomes."[2] The following research questions were developed based on those originally proposed by IB. They are clustered into three major categories and provide a focus for the study:

Developing and supporting IB state schools

1. What is the role of the **Ministry of Education** in the implementation of IB in state schools beyond the formal commitment?

[2] From the IB's Request for Proposals (RFP) for this project.

a. What kinds of support does the state provide?
b. How does the ministry select which schools will apply to become authorized IB schools?
c. Why did the ministry decide to encourage the implementation of IB across the country? What does it view as the advantages of IB?
d. What are the challenges the state faces in supporting this effort, particularly at this scale?

2. What has been the role of **IB** in the implementation of an expanded number of IB schools in Ecuador?
    a. How did the IB help during implementation?
    b. What would have been particularly helpful in this situation and future/similar situations?

3. What are the contributions of the **mentorship** or coaching between private and state schools to the implementation of the IB programme?

School change

4. What is the impact of IB implementation and adoption on school practice?
    a. What is the impact on school design and structure?
    b. What is the impact on pedagogy?
    c. What is the impact on school culture?

5. How has IB implementation affected teachers, administrators, and other school staff?
    a. What are the benefits of IB implementation from the perspective of each of these groups?
    b. What are the challenges?

Student enrollment and performance

6. What are the enrollment and retention patterns of students in the Diploma Programme?
    a. How many students are participating in the DP?
    b. What is the admissions process for students?
    c. Why do the students choose to enroll in the DP?
    d. What are their demographics?
    e. To what extent are DP students representative of the student population at large?
    f. What is the retention of students through the program?

7. What is the impact of implementation and adoption of DP on student scholastic and non-scholastic outcomes?
    a. What are student outcomes on measures of school performance

(course grades, year-to-year promotion, graduation, matriculation to college)? How do these compare with student outcomes before IB was introduced to the school?

b. How well do students perform on DP exams? How do they compare with DP students internationally?
c. How well do students perform on assessments of their theory of knowledge coursework, extended essay, and CAS (creativity, action, service). How do they compare with DP students internationally?

Methods

A mixed methods research design was developed to address the research questions. Table A shows the methods used to answer each of the clusters of research questions.

Table A: Research questions and methods

Research Question	Method				
	Interviews with MOE, IB and mentors	Survey of DP Coordinators and teachers	Telephone interviews of DP Coordinators	School visits/case studies	Analysis of data from DP records
1. What is the role of the Ministry of Education in the implementation of IB in state schools beyond the formal commitment?	x	x	x	x	
2. What has been the role of IB in the implementation of an expanded number of IB schools in Ecuador?	x	x	x	x	
3. What are the contributions of the mentorship or coaching between private and state schools to the implementation of the IB programme?	x	x	x	x	
4. What is the impact of IB implementation and adoption on school practice?	x	x	x	x	
5. How has IB implementation affected teachers, administrators, and other school staff?	x	x	x	x	
6. What are the enrollment and retention patterns of students in the Diploma Programme?		x			x

7. What is the impact of implementation and adoption of DP on student scholastic and non-scholastic outcomes?		x			x

In general terms, the questions pertaining to implementation approaches and quality were addressed using qualitative methods including site visits, interviews, and open-ended questions on surveys. The questions on student demographics, enrollment and performance were addressed using quantitative methods including student-level data analysis and survey data analysis. In general, protocols, surveys, and consent forms were developed in English and then translated into Spanish. Protection of human subjects (IRB) approval was sought and obtained from Teachers College, Columbia University and from the University of San Francisco in Ecuador.

Description of each research activity

Interviews with Ministry of Education representatives, IB Regional staff, and mentors of new schools: These interviews were designed to address a number of the research questions, especially those having to do with support for implementation of the DP in state schools. They were conducted face-to-face or by telephone and guided by semi-structured interview protocols developed in advance. Dr. Aguirre conducted the interviews with Ministry representatives. Dr. Barnett conducted the interviews with IB staff and mentors.

The following numbers of interviews were conducted. A complete list of those interviewed is included in Appendix A. Interview protocols for all interview types are included in Appendix B.

Table B: Interviews Summary

Interviewee type	Number conducted
Ministry of Education representatives	4
IB staff and consultants	5 (2 of whom were also interviewed about mentoring)
People who have served as mentors	2

Each interview resulted in a set of notes. These were analyzed, first based on the research questions and secondarily for themes that emerged from the data.

Surveys of DP coordinators and DP teachers: The DP coordinators play a vital role in the initiation and ongoing implementation of the Diploma Programme in each school. DP teachers are also integral to the success of the initiative. We conducted a survey of all DP coordinators in Ecuador except for those from schools where we had done site visits. The teacher survey was administered to all DP teachers. We

included coordinators and teachers from both private and state schools. This allowed us to create a profile of the full DP initiative in Ecuador, and also permitted comparisons to be made between the implementation of DP in private and state schools as well as between DP teachers and DP coordinators.

The survey questions were developed based on the study's research questions. The questions asked of coordinators and teachers overlapped to a considerable degree, although more of the teachers' items pertained to pedagogical issues and more of the coordinators' items dealt with administrative issues.

The surveys were administered by Dr. Barnett's research team using Survey Monkey. A list of DP coordinators in Ecuador was provided to us by the IB Research Department. An initial email was sent to all 50 DP coordinators in November 2012 inviting them to participate in the survey. A second email was sent shortly thereafter to these coordinators with the link to the teacher survey. The coordinators were asked to forward this second email to the DP teachers in their schools. Both sets of surveys were open between November 21, 2012 and December 5, 2012. Follow up emails were sent out November 28, 2012. The number who responded to the surveys is shown in Table C. The response rate of DP coordinators was 72%; the response rate of teachers cannot be calculated.

Table C: Survey Respondents

	Coordinators	Teachers
Type of school		
State	17 (47%)	62 (45%)
Private	19 (53%)	76 (55%)
Total	36	139
Gender		
Male	16 (44%)	54 (39%)
Female	20 (56%)	83 (60%)
Average length of time in position		
State	3.7 yrs	4.1 yrs
Private	3.7 yrs	3.5 yrs

The survey responses were downloaded in Excel and transferred to SPSS for analysis. For closed-response questions, analysis involved generating simple descriptive statistics. Where appropriate, the responses of coordinators and teachers were compared, as were the responses of those from private and state schools. The open-ended questions were analyzed separately; they were first clustered according to the research questions and secondarily coded to identify emerging themes. A tabulation of survey responses is included in Appendix C.

Telephone interviews with state school DP Coordinators: Because this research was primarily about DP implementation in state schools, the surveys were supplemented by telephone interviews with a substantial number of the DP

coordinators in state schools. In these interviews, we asked more detailed questions about the school, the DP and its place in the curriculum, the community context, the students served, factors that facilitated or hindered the implementation of the DP, and the benefits and challenges associated with this initiative.

An email was sent to all DP coordinators in state schools except those that received site visits. A total of 16 DP Coordinators were interviewed by Dr. Aguirre and her staff. Semi-structured interview protocols guided the interviews and a set of notes were taken during each. These notes were analyzed by first organizing them according to the research questions and then clustering the responses into categories by emergent theme. A summary of the findings of these interviews is included in Appendix D.

School visits/case studies: School visits were done in November 2012 to learn more about a sub-set of state schools offering the DP. We visited two schools in or near Quito and two schools in the city of Guayaquil. These schools were selected based on the following required or preferred criteria from among 16 candidates provided by the IB:

Table D: Criteria for Site Visit Selection

Criteria	Required	Preferred
State (governmental) school	x	
DP offered at least two years or more	x	
Size – at least 50 students in DP	x	
Mentoring another school		x
Availability for study	x	
Enthusiasm for study		x
Recommendation based on IB reports		x
In agreement to participate in study	x	
Location near Quito or Guayaquil		x

The school selection process and all arrangements leading up to the site visits were carried out by Dr. Tokuhama and Ms. Rivera in consultation with Dr. Barnett. The visits were conducted by Dr. Barnett and Dr. Bryner, along with Ms. Rivera. Site visits were conducted at the following schools:

Table E: Schools Visited

Site Visit Schools	City	Year authorized by IB
School A[3]	Quito	2003
School B	Guayaquil	2008
School C	Guayaquil	2008
School D	Quito environs	2008

Each visit lasted a day and a half and included:

- Interviews of school heads, DP coordinators, and DP teachers.
- Focus groups of parents.
- An interview with the person most responsible for bringing the DP to the school (if not already included).
- A tour of the facilities including any with particular relevance for the DP.
- Observations of DP classes or activities.
- Review of documents relevant to DP implementation.

The site visits were guided by interview protocols, observation guides and document review guides. A total of 30 interviews were done with about 40 people (see list of interviewees in Appendix A). The researchers took extensive notes. In addition, the interviews were recorded and transcribed by Dr. Tokuhama and her staff. The interview data were analyzed, first in relation to the research questions and secondarily according to emergent themes. A summary of the findings of the site visit research is included in Appendix E.

Analysis of data from IB records: IB maintains records of individual student demographics, schools attended, performance on DP exams, and award of diplomas and certificates. Records are also kept of student performance on Theory of Knowledge coursework, extended essays, and CAS activities (creativity, action, service). NCREST obtained these de-identified data sets from IB for all current and past DP students in Ecuador through September 2012. We also obtained comparison data from other countries related to student performance on DP exams, award of diplomas and certificates, and student demographics.[4]

The data sets were transferred to SPSS for analysis. A second data set, aggregated by student was also created in SPSS. A set of questions was developed about the meaning of each of the data elements; these questions were answered by IB representatives. Descriptive analyses were conducted that permitted us to respond to the research questions related to student enrollment and performance.

[3] It should be noted that this school was authorized by IB before the initial Phase I agreement with the Ministry of Education.

[4] from a presentation developed by Gloria McDowell of IB, May 2013

Findings

The findings of this study are presented below, with a focus on each of the research questions and sub-questions.

DEVELOPING AND SUPPORTING IB STATE SCHOOLS

A. What is the role of the **Ministry of Education** in the implementation of IB in state schools beyond the formal commitment?

What kinds of support does the state provide?

The President of Ecuador and the Ministry of Education have shown a very high level of support for the IB Diploma Programme. As indicated by statements made by the president,[5] there is a strong belief that deep involvement with DP will lead to a much stronger secondary education system that is aligned with high international academic standards. They have shown this commitment in two ways. First, they are implementing the DP in large numbers of state high schools. Second, they are explicitly incorporating DP-type content and approaches into their regular national secondary school curriculum.

The original "Phase One" agreement signed by the Ministry and IB indicated that the Ministry committed to do the following in relation to starting a DP in each of Ecuador's provinces:[6]

> 1. Appoint an official of the Ministry of Education to act as the liaison between the Ministry of Education and Culture, the International Baccalaureate Organization, and the school.
>
> 2. Ensure that schools have the necessary funds to carry out the authorization process and the implementation of the program with substance and sustainability over time.
>
> 3. Conduct school selection activities, monitor the program implementation process, keep updated statistics on students enrolled and promoted, and promote the wider dissemination of similar practices.

While there is no new written agreement governing "Phase Two," which is intended to create a total of 520 Diploma Programmes in public high schools, there appears to be a continuing commitment to implementing these actions.

According to interviews with both Ministry of Education and IB representatives, the Ministry takes primary responsibility for bringing new schools into the DP and

[5] available on YouTube

[6] from the IB document, *El Proyecto Ecuador: Sus Origenes,* our translation

overseeing their work once authorized by IB. Ministry officials interviewed indicated that their primary duties were as follows:

- Providing a budget, administered at the regional level.
- Participating in the selection of new schools.
- Encouraging the participation of good teachers and administrators.
- In cooperation with IB, solving problems that arise.

DP coordinators surveyed indicated that their schools had received the types of assistance from the Ministry of Education shown in Table F.

Table F: Assistance Provided by the Ministry of Education

	% who agreed	
	Coordinators	
	State	Private
We have received help from the Ministry of Education (MOE) in setting up and running our IB program.	82	35
The MOE supports the development of the school's IB program financially.	94	0
The MOE supports the development of the school's IB program by offering training.	81	13
The MOE supports the development of the school's IB program by offering advice or guidance.	65	7
The MOE supports the development of the school's IB program through providing educational materials or resources.	69	0
The MOE supports the development of the school's IB program through providing reports or data on student progress.	7	0

Not surprisingly, state schools were much more likely to have received assistance from the Ministry than private schools. Almost all state schools received financial support (94%), while around two-thirds received advice or guidance (65%). Data reports were not provided to schools by the Ministry; this was clearly not an expected aspect of their support.

It should be noted that the financial support from the Ministry is used to improve the school in ways explicitly required by the IB and intended to provide students with a high quality educational experience. Thus, even in very under-resourced schools, we observed Ministry-provided air conditioned classrooms with Smart Boards, adequate Internet access, functioning libraries and equipped science labs. In some cases, this infrastructure was available only to DP students;[7] in other cases, it was also used by the school as a whole.

How does the ministry select which schools will apply to become authorized IB

[7] Most state schools serve cohorts of up to 25 students per grade level; most private schools offer the DP to all students.

schools?

Different approaches were used in each of the two phases of school selection. In Phase One, the intent was to open one Diploma Programme in each of Ecuador's provinces. It appears that the schools were hand-selected as having strengths that would allow them to be educational leaders in implementing the IB programme. In Phase One, regional IB schools were supposed to serve their own population as well as students from surrounding areas who might want to enroll in DP during the two final years of their Bachillerato program. Coordinators of three of the schools visited reported that they were invited to a meeting in Guayaquil in which they were invited to apply to become IB schools; the other school had joined DP before Phase One began.

With regard to the selection process for the 120 schools that are becoming DP candidate schools in the 2012-13 academic year, a more formal process has been instituted. Guided by a list of key characteristics that IB considered important,[8] the Ministry developed a set of school selection criteria that included the presence of stable, experienced school directors, geographical distribution, and existing infrastructure.[9] According to Guillermo Rodriguez, a consultant who has been overseeing this phase of the work for IB, a considerable number of applications were received. The Ministry has made the selection of those who may apply for candidacy, with some help from IB representatives. According to an April 2013 report from Gloria McDowell of IB,[10] 121 schools had been selected and are taking steps toward authorization.

Why did the ministry decide to encourage the implementation of IB across the country? What does it view as the advantages of IB?

According to a history of the efforts to authorize large numbers of state schools to offer the DP,[11] a memorandum of agreement signed in February 2006 between the Ministry of Education and IB states that the goal of the collaboration was to "elevate the academic level and humanistic preparation of young people entering the national public education system with the insertion of the Diploma Programme into the Bachillerato (high school program) as well as to have an impact on national programs of that level." More recently, President Correa, in a 2012 address to the populace, spoke of the IB programme as contributing to a higher quality of secondary education. In sum, there was a two-fold purpose: to provide opportunities to students who enrolled in the DP as well as to raise the level or rigor of public high school education in the country more generally.

In our research, we asked interviewees at the Ministry of Education to explain their

[8] Described in a document called *Consideraciones*

[9] From IB document *El Proyecto Hoy, Aspectos claves a considerar en el estudio de factibilidad*

[10] *McDowell, G. (April 2013). Ecuador report. IBO.*

[11] From IB document *El Proyecto Ecuador: Sus Orígenes*

interest in expanding the DP over the past two years. Their responses were generally aligned with the goals stated above related to improving the quality of education. However, several other reasons were mentioned as well. More than one stressed the importance of using international standards as a benchmark for secondary education in Ecuador. There was also mention of the importance of preparing students well for college. Several pointed to the need for improved teacher training and others of increasing the opportunities students have to study in other countries. Another spoke of the potential contribution to "growth and development."

What are the challenges the state faces in supporting this effort, particularly at this scale?

According to interviewees at the schools visited, there are two primary challenges that have to do with support from the Ministry: finances and teaching staff. With regard to finances, the four schools all reported a decrease in their IB-related budget from the Ministry of Education in the last couple of years. In addition, they were not able to predict the amount of funding in a particular year and when it would be available. This resulted in: a) decreased access to IB workshops for teachers, b) the inability of schools to serve more than the minimum of 25 students and c) a diminished motivation of teachers in schools to get involved in the program.

The second challenge is making participating in the DP an attractive option for teachers. Coordinators at the four schools visited agreed that they have had great difficulty finding teachers who want to join the programme. In two of the schools, about 2/3 of the IB teachers are nearing retirement age. In two other schools, the DP coordinators have had to teach some of the IB courses until new teachers can be found. In all four schools, coordinators and teachers told us that prospective teachers worry that the advantages of teaching in IB (more professional development, smaller classes, fewer classroom hours) are outweighed by the disadvantages (more work required to do the job well, no additional pay).

An exacerbating factor is instability in the teaching staff. Under the existing system of teacher placement, a contract teacher can get suddenly moved to a new locale even if much has been invested in their training. Their status with regard to promotions or placement is not affected by their role with IB. Thus, many schools only consider permanently-placed teachers for IB positions, limiting the number who can serve in this role.

Interviews with DP Coordinators also provided insights into the schools' relationship with the Ministry. Most of them indicated that the Ministry provides important financial help to the IB programme; however a number of them noted that the frequent change of Ministry personnel is a problem.

They also pointed out that a great deal is asked of schools and IB teachers, often with inadequate support in terms of funding, training, and recognition of efforts.

Many of the coordinators expressed concern with the ways that teachers are assigned and managed, and especially with the vast amount of extra work required to teach IB courses with quality, with no extra compensation.[12] In addition, they concurred that teachers who had been trained in the IB curriculum and methods were regularly re-assigned to other schools for a variety of reasons, leaving the school scrambling to cover their courses.

Interest was also expressed in more opportunities for communication with the Ministry about problems.

Summary

The President and the Ministry have shown that they highly value IB and the Diploma Programme. They view the programme as key to improving the rigor and quality of education in the country and providing the opportunity for them to bring up their secondary education to high international standards.

The Ministry is actively managing the overall IB programme in the country, heading up school selection, and providing financial resources. Problems have been caused by rapid turnover of personnel in the Ministry, poor financial management practices, and the current system of teacher assignment and compensation.

B. What has been the role of **IB** in the implementation of an expanded number of IB schools in Ecuador?

How did the IB help during implementation?

The IB, through the regional office in Buenos Aires, has overseen the organization's role in the expansion of the DP into more state schools in Ecuador. The office of the IB-Americas region, based in Maryland in the United States, has provided oversight. On a formal level, the IB organization committed to do the following in the original memorandum of agreement signed in 2006 establishing the first round of state IB schools:[13]

1. Provide the necessary guidance to support the various stages of the process of authorizing the schools.

[12] It should be noted that DP teachers have smaller class sizes – during site visits, we observed classes of 12-25 students as opposed to 50-60 in regular classrooms. DP teachers also teach 20 hours a week rather than the 30 required of other teachers. However, there is an almost universal perception that their workload is considerably heavier than that of regular teachers.

[13] from the IB document, *El Proyecto Ecuador: Sus Origenes*

2. Engage in dialogue and constant communication leading to the successful implementation of the DP in authorized schools.

These guidelines are very general and leave a lot to the discretion of IB. No further agreements have been developed governing the second phase of work, although one has been drafted and is expected to be enacted soon (*personal communication, Gloria McDowell, IB*).

Interviews with IB staff indicated that they are both excited about, and somewhat overwhelmed with, the scale and pace of the growth in Diploma Programmes underway in Ecuador. They are actively seeking new approaches to deal with the unprecedented influx of schools, with little prior experience with sudden, massive growth to inform their work.

During site visits, the researchers sought to learn more about the support IB offers the schools. According to the DP coordinators of the four schools visited, IB sent representatives (IB Educators and IB staff) to their schools when they were preparing for authorization to review their progress toward meeting requirements. They also received second and sometimes third visits in which there was a review of whether they had met the authorization criteria and later to authorize them to offer the DP. They also spoke of being able to get answers to questions when needed on the IB website or via email. In general, it appeared that they were satisfied with the level of contact.

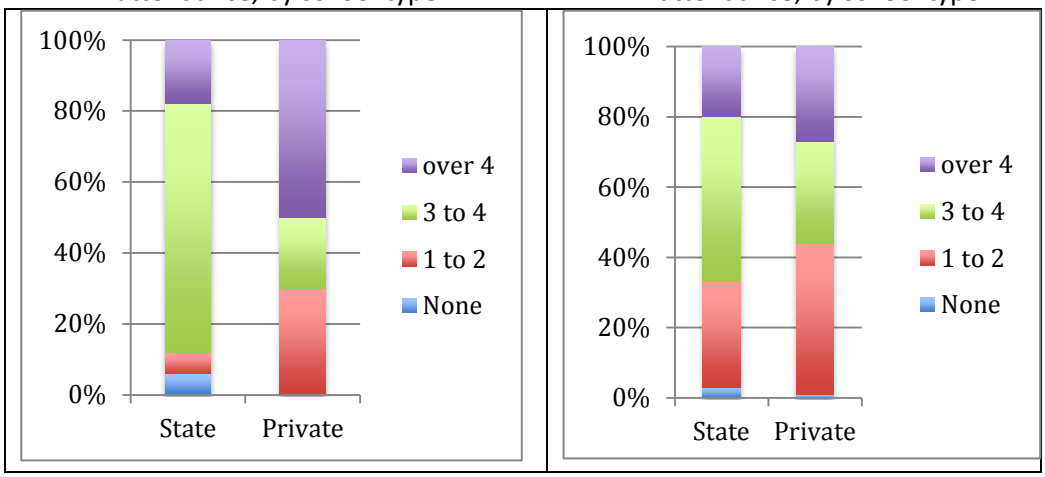
Both the coordinators and teachers spoke, often glowingly, of the professional development (PD) they had received from IB to prepare them for their roles. For many teachers, the PD was a very major benefit of participating in IB and they talked about the ways that they had grown professionally as a result. They valued both the formal training offered as well as the access to IB curriculum and instructional materials. For many, the experience was profound and opened new and exciting worlds previously unimagined. Figure 2 shows the number of trainings attended by coordinators and teachers. Private school coordinators were more likely to have attended workshops than state school coordinators.[14] Private and state teachers averaged similar numbers of workshops attended.

[14] We looked at whether the difference in access to training could be explained by the time that respondents had been in their positions. It could not. DP coordinators' at both state and private school averaged 3.7 years in their positions; state teacher respondents averaged 4.1 years as DP teachers whereas the private school teachers averaged 3.5 years as DP teachers.

Figure 2: PD Attendance

a. Coordinators' IB training attendance, by school type

b. Teachers' IB training attendance, by school type



In reference to the content of the PD offered, IB representatives described ways that they are adapting the existing training sequences to the needs of state school personnel in Ecuador. In some cases, training had to be revised to cover more of the actual content that teachers may not have been exposed to previously. For example, they offered special 3-day (rather than 2- or 2½-day) workshops in biology and business as well as targeted workshops on the use of labs in science education and graphing calculators in math. Specific workshops were developed on academic honesty as teachers were not always aware of international standards in using and citing reference materials.

Another source of information on the role of the IB in supporting schools was the survey of DP coordinators. Their responses on these items are shown in Table G. The IB organization is clearly viewed by both state and private schools as a multi-faceted source of support, with over 80% of both groups indicating that they receive guidance, training, and educational materials from the IB. The only area in which few schools felt supported was with regard to reports or data on student progress; it appears that this is not a service regularly offered by IB.

Table G: Assistance Provided by IB

	% who agreed	
	Coordinator	
	State	Private
We have received help from the IB organization in setting up and running our IB program.	100	94
The IB organization supports the development of the school's IB program financially.	13	6
The IB organization supports the development of the school's IB program by offering training.	88	100
The IB organization supports the development of the school's IB program by offering advice or guidance.	94	82
The IB organization supports the development of the school's IB program through providing educational materials or resources.	81	82
The IB organization supports the development of the school's IB program through providing reports or data on student progress.	43	53

Survey results also indicate that the frequency of communication (via email or personally) between coordinators and IB representatives varied greatly and there did not appear to be a routine communication pattern between schools and IB. Several coordinators commented that they only contact the IB when necessary, while others had regular contact.

What would have been particularly helpful in this situation and future/similar situations?

As expressed in all of the sources of data, school personnel were effusive in their praise of the DP and the opportunities it presents for school improvement, teacher growth, and student learning. A considerable number thought that there should be more schools and students involved and many (but not all[15]) supported the massive scale-up underway.

We also learned about additional supports that school personnel thought would be helpful to receive from the IB. In the survey, 16 teachers and three coordinators requested more training opportunities, with several asking for the training to be more in-depth or more specialized. A state school teacher asked that the process for registration be managed differently, with quotas for state and private teachers to prevent them from filling up too quickly. Three teachers expressed a concern with the high cost of attending trainings. Two state teachers wanted IB trainings to count towards requirements for promotion in rank.

Additional survey responses on the types of support wanted were as follows, in approximate order of number of mentions:

[15] Some expressed concerns about whether the Ministry and IB could provide the necessary levels of support needed by large numbers of new schools.

- More Spanish language resources and texts.
- Offering the IB curriculum to younger students so they are adequately prepared for the DP.
- Provision of better, more detailed feedback to teachers that would lead to improved practice.

During our site visits, we obtained a clear picture of the difficulties involved in creating DPs that meet IB's high standards. The DP coordinators were on the front lines of this struggle, often working hard to balance the needs of different stakeholders and to interact effectively with the Ministry and IB. They confronted a range of challenges such as figuring out how to identify the right students to enter the DP, finding willing and effective teachers, keeping school heads informed and committed to the programme, overseeing the use of IB-specific facilities and resources, providing support for the Creativity, Action, and Service (CAS) trips and activities, interacting with parents, staying current on IB rules and expectations, and deflecting criticisms of the programme (justified or otherwise). Teachers were also working very hard to align their practice with IB standards.

It is important to keep in mind that these schools are ones originally selected by the Ministry as particularly capable of implementing DP. Further, they were chosen for our site visits in part because they were among the first public schools in the country to implement the IB, thus showing greater capacity. This raises questions as to whether more active support may be needed as schools with more challenges undertake implementation of the DP.

Summary:

The IB model and the IB organization's support for the development of DP in public schools in Ecuador are highly valued—by the Ministry and by school personnel at all levels. In particular, the teacher development opportunities are considered of great importance, along with the curriculum resources. Teachers and coordinators would like improved access to a wider range of workshops. They would also like more Spanish language resources.

The researchers believe the public schools in Phase Two will need more support than the schools in Phase One and recommend that IB consider ways to bring new and different approaches to the effort. This will be further discussed in the recommendations.

C. What are the contributions of the **mentorship** or coaching between private and state schools to the implementation of the IB programme?

Patricio Montufar, Rector of the ISM International Academy in Quito and fourth time president of the Ecuadorian Association of IB Schools (Asociación Ecuatoriana de

Colegios de BI or ASECCBI) was interviewed in March of 2013 as part of this research. He provided very useful information on the systems that the Association has established to provide mentorship and coaching to recently established state schools. Mr. Montufar brings a unique perspective to this role as he was formerly the DP coordinator at the first state IB school in Ecuador, the School A in Quito, one of the schools we visited. School mentor relationships were organized by the Ministry and the Association, in cooperation with IB, with the private schools designated as *padrinos* (godfathers or sponsors).

According to Mr. Montufar, the padrino relationships were individualized to each school because schools had different needs. For example, if a school needed help with chemistry, the padrino school might link up the chemistry teachers from the two schools with each other. They could then visit back and forth, communicate by email, or serve as guest lecturers in each other's classes. Sometimes the padrino school would help the state school with lab materials. At the same time, there was a lot of uncertainty and padrino schools did not always know how to best meet the needs of the state school. With respect to the school's role as a padrino, he commented (paraphrased):

> *We were padrinos to 4-5 schools…They had problems with the extended essay. That was one of the most common problems. They also had inadequate libraries. In Ecuador, we tend to treat a library as a warehouse, not an active library…. There were also problems with academic honesty; we directed them to* turnitin[16] *to make sure that students were submitting original work… The situation and results are improving.*

The Association would like to offer padrino relationships to the Phase Two schools, although they are aware that serving the needs of substantially larger numbers of schools will not be easy.

We learned further about mentoring relationships from the survey. As shown in Table H, two-thirds of private school coordinators (65%), one-third of state coordinators (35%), and nearly a third of teachers (30%) from both public and private schools reported receiving support in the implementation and development of DP from other institutions, mainly other IB schools. The large majority (94%) of coordinators reported having contact with other IB schools; fewer teachers (68%) reported having contact with other IB teachers. Of individual IB schools mentioned by name as being helpful, one state school was named four times, and two private schools were named 2-3 times.

[16] Turnitin is an online tool that can be to check for academic plagiarism. See http://turnitin.com.

Table H: Interactions with Other Schools

	% who agreed					
	Total		Coordinators		Teachers	
	Coord	Tchr	State	Private	State	Private
We have received assistance from other institutions in the implementation of and development of the IB program.	49	30	65	31	29	31
We have contact with other IB schools.	94	N/A	94	95	N/A	N/A
We have contact with teachers from other IB schools.	N/A	68	N/A	N/A	67	68

Of the four schools visited, all had had the experience of collaborating with other schools. One school reported receiving assistance from another, well-established school, also among those that we visited. Two other schools had not received formal mentoring; however their teachers had had opportunities to collaborate with those from the other school, as well as with faculty from a private school and the local Politécnico (technical college).

Summary

The original system for mentoring was relatively unstructured. There was much goodwill from the private schools and a great willingness to help state schools. The system's effectiveness was largely dependent on the interest, skills, and enthusiasm of the school heads and coordinators involved. Clearly, some schools benefited considerably from this experience. This effort might have been even more effective with formal coordination and tracking from a central level.

The system appears to have the potential to offer only limited support to Phase Two schools. There is a high level of commitment from Association member schools to helping the next wave of state IB schools. At the same time, there are limits to what can be expected from busy people in terms of their commitment of time and resources. Further, many of the people leading this effort are also serving as consultants to candidate schools, further limiting their available time.

SCHOOL CHANGE

A. What is the impact of IB implementation and adoption on school practice?

For the purposes of this report the concept of school practice is broken down into three sub-categories: school design and structure; pedagogy; and school culture.

Overall, survey responses indicated 100% of state DP coordinators (29% strongly agreed, 71% agreed) and 81% of state DP teachers (21% strongly agreed, 60% agreed) perceived their schools to have changed for the better as a result of the implementation of DP. Additionally, the vast majority of DP coordinators (94%) and teachers (81%) considered their schools' academic programs to have been strengthened by participation in DP.

What is the impact of IB implementation on school design and structure?

IB implementation has had an influence on a number of aspects of school design and structure, most notably on the use of IB documents to guide practice, the physical facilities, the division of organizational responsibilities, the school schedule, and the preparation of younger students to enter the DP. Each is discussed below.

The use of IB's guiding documents: The IB *Standards and Practices* and *Learner Profile* were commonly used in schools in relation to developing the DP. All state DP coordinators and 90% of teachers reported using IB's Standards and Practices to make decisions about their schools' Diploma Programmes. All coordinators and 98% of teachers reported regular use of the Learner Profile.

Physical changes: The parameters set forth by the IB have required changes in the offices of the DP coordinator and teachers, as well as in classrooms and laboratories. Three of the four schools visited had constructed new office space, classrooms, laboratories, and restrooms for DP use; in the fourth, renovations were done to bring it up to IB standards. In several cases, a permanent Internet connection was installed. For parents, the improvements in school infrastructure, especially classrooms and laboratories, were among the most notable changes resulting from the implementation of DP in the schools. The funds to make these changes came from the Ecuadorian government and were an important reason for schools' initial interest in implementing DP.

On a related note, class sizes were dramatically lower in DP classrooms as compared with regular school classrooms. We were struck during our visits by the difference in the observable classroom experience of those in a well-outfitted, air-conditioned classroom with 20 students as compared to sweltering classrooms with only a blackboard and 55+ students. A message was clearly conveyed that the DP teachers and students would work in a physical environment conducive to focused study and

learning. In some cases, these higher quality facilities were also a source of tension, as they were available to some students and teachers and not others.

Organizational responsibilities: Implementation of the DP requires the transfer of some of the responsibilities generally associated with the rector to the DP coordinator. DP coordinators are responsible for such organizational functions as program planning, budget implementation, monitoring of the program, and serving as the liaison to external organizations. The rector, however, manages expenditure authorizations, including those associated with the DP. As explained by coordinators during site visits, the rector may resist authorization of expenditures for activities in which he/she was not involved in the planning. This may place limits on what the coordinator can do.

School schedules: In a number of cases, teacher and student daily schedules were extended to accommodate the needs of the DP curriculum. Many parents commented on students' extended school days and long hours of study at home. Teachers also remarked on how much time they had to spend outside of regular school hours. This added time was undoubtedly beneficial in terms of student and teacher performance as well as engagement with the highly valued CAS activities. However, the heavy schedule appeared to negatively influence both teacher and student retention in the programme. Further, normal patterns of meal times were interrupted. Students were not able to go home in time for the regular mid-day meal and often could not afford to purchase food at the school canteen. Parents expressed concern about this. One student was reported to have fainted from hunger.

Preparation of younger students: The academic skills and knowledge necessary for students' successful participation in DP led some schools to implement strategies to prepare students prior to entering DP. Nearly two-thirds of state coordinators (59%) and just under half of teachers (44%) surveyed said that their schools made efforts to prepare younger students. Specific preparation strategies varied, however. A relatively small number of surveyed DP coordinators (18%) and teachers (10%) reported formal "Pre-IB" programs. Sixteen percent of teachers reported that they augment their regular curriculum with activities such as emphasizing the creative and critical thinking skills expected of DP participants. Other efforts to prepare students included providing motivational presentations, disseminating information on the program to students and parents, or tracking top students into DP.

Formal Pre-IB programs were being implemented at all four schools that we visited. These Pre-IB programs were offered to students during the year before they would enter the DP. They were designed to prepare students with good study habits and skills and were mainly taught by DP trained teachers. The participating students were selected as those likely to succeed in the DP. The coursework consisted of modified content from the national curriculum, with the higher level of rigor and expectations associated with the DP.

What is the impact of the implementation of IB on pedagogy?

Those interviewed during site visits and by telephone reported that the IB has a strongly positive influence on DP teachers' pedagogy. In the survey results, state DP coordinators overwhelmingly agreed that there had been pedagogical improvement due to the implementation of DP (see Table I). In fact, a large majority of coordinators (94%) reported that pedagogical practices in the *entire school* had improved. In contrast, only half of state teachers (54%) felt the same way. The large difference between coordinator and teacher perceptions could be due to teachers' beliefs that non-DP teachers had not made substantial changes.

The great majority of surveyed state teachers reported changes in their own pedagogical practices due to their involvement with DP. Ninety percent of teachers reported changes in their teaching in general, 94% reported changes in student assessment practices, and 95% reported using different teaching materials. Factors cited as contributing to improvements in pedagogical practices at the schools included new laboratories and instructional materials, better training, technology available to teachers, support from peers, better long-term lesson planning skills, and greater teacher dedication.

Table I: Changes in Pedagogical Practice

	% who agreed	
	Coord	**Tchr**
The pedagogical aspects of our school have improved due to the implementation of the IB program.	88	54
I have changed my teaching due to my involvement with the IB program.	N/A	90
I have changed the way I assess students due to my involvement with the IB program.	N/A	94
I use different teaching materials (e.g., textbooks, lab equipment, technology) due to my involvement with the IB program.	N/A	95
I spend class time preparing my students to take the IB exam.	N/A	77
Our students benefit from the IB Theory of Knowledge course.	N/A	82
Our students benefit from participating in the IB Creativity, Action, and Service component.	N/A	93
Our students benefit from writing the extended essay.	N/A	87
Our school has more access to teaching tools and resources because of the IB program.	94	77
Teachers in our school have more access to professional development (training) because of the IB program.	82	53

IB curriculum. Across the board, the IB curriculum was held in high regard. Teachers interviewed spoke of their excitement about having access to excellent curriculum guides and instructional resources. The great majority of teachers agreed that their students benefited from IB's Creativity, Action, and Service component (93%), the

extended essay (87%), and Theory of Knowledge course (82%). Teachers were especially enthusiastic about how the CAS and extended essay components of the IB curriculum benefitted the DP students. Interviewees also commented on the extent to which the new national secondary curriculum was mirroring the IB curriculum.

Lesson preparation: DP teachers, across the board, reported that they are constantly conducting research in preparation for classes. The amount of time that they devote to lesson preparation is much greater due to the more demanding DP curriculum as compared to the national curriculum. Teachers also talked about replacing traditional approaches to teaching with the new methodologies promoted by IB. Teachers reported a high level of awareness of the expectations of IB and the need to invest time and energy to meeting them. Teachers commented:

> *Because it is a challenging program, teachers feel the need to do more research, be very prepared, read more, and design teaching strategies for the implementation of the courses.*
>
> *We learn to plan, even 6 months ahead.*

Classroom instruction: During site visits, we spent time in classrooms with mixed levels of instructional quality, although we generally observed high levels of student engagement. The set-up of classrooms varied. In some classrooms, seating was arranged in rows; in a few classrooms the desks were configured in a U-shape or clustered into groups to promote better interaction among students. In all four schools, we were impressed by students' energy, enthusiasm, reflectiveness, and ability to express their ideas with confidence and skill.

Teachers employed several different methods of instruction including lectures using PowerPoint slides, group work, and class discussion. Some teachers engaged students with questions requiring higher-level thinking skills or the application of learned concepts to real life situations. However, other teachers were less student-focused and more concerned with moving through their PowerPoint presentations. These teachers did not follow through with very meaningful questions.

Most teachers seemed to be highly conscious of the differences between traditional and IB education. As one biology teacher observed during a site visit, students entering the program must learn to adjust their study habits so as to earn the same high grades that they were used to obtaining more easily in regular classes.

> *The IB is much more about using and analyzing material. Students have to work hard to focus less on memorization and more on thinking.*

During our visits, students demonstrated an ability to think critically and to express their thoughts verbally and in writing. In a *Theory of Knowledge* class, groups of students, using PowerPoint presentations, presented reports on various topics

related to sexual deviance. They had conducted a series of interview with experts on the topic and also had done extensive reading. These students displayed confidence in making a point, at times respectfully disagreeing with each other. In other classes, we saw that students were able to dig below the surface when talking about diverse subjects such as the meaning of art, the ways in which their lives differed from those of people in other countries or in indigenous villages, the routes taken by Spanish explorers, and the design of Columbus' ships. In addition, we were able to observe the use of a range of writing assignments including research reports, letters written to Christopher Columbus, and the use of journals to track CAS projects.

Teaching resources: During site visit tours of the facilities, personnel were proud of their laboratories and modern technology. The equipment was carefully organized and stored. Students often managed the in-class computers and projectors used during instruction and resolved technical difficulties with the in-class equipment. Libraries tended to be less well conditioned.

Nearly all coordinators (94%) and three-fourths (77%) of teachers reported that their schools had greater access to teaching tools and resources due to DP implementation. At the site-visit schools, the biology, physics and computer labs established for DP were made available to the larger educational community, greatly increasing instructional resources available to the non-DP students and teachers.

Impact on pedagogy across the school: A number of the DP coordinators interviewed spoke of ways that DP curriculum approaches are filtering into the larger school. This is mainly happening in two ways. First, teachers of DP students are often teaching younger students as well—either those being tracked into the DP, or the younger population in general. They are applying what they have learned about DP pedagogy to the range of classes that they teach. Second, DP teachers are interacting with their colleagues, especially those in the same department; in some cases they are explicitly sharing what they have learned. Two DP coordinators said:

> *It is having a big impact that [DP] teachers share and tell others about their experiences, especially with those in the same subject area.*
>
> *There is sharing with other teachers. For example a history teacher has been sharing his materials with others who teach in the national program.*

What is the impact on school culture?

In looking at school culture, we focused primarily on the overall school environment, relationships within the school including professional collaboration, and norms and values attributable to the presence of the DP. We learned about school culture from the DP coordinator interviews, site visits, and survey results. Table J shows the responses of DP coordinators and teachers on several survey items related to school culture.

Table J: Changes in School Culture

	% who agreed	
	Coord	Tchr
Having the IB program in the school has improved our school environment.	65	57
Since the implementation of the IB program, the education community has been more unified.	35	31
Teachers at our school are generally in favor of the IB program.	65	18
Non-IB students in our school are generally in favor of the IB program.	40	17
IB students have positive social relationships with the non-IB students.	73	59

Overall school environment: On their responses to the survey, about two-thirds of state DP coordinators (65%) and teachers (69%) perceived the implementation of DP to have improved the school environment. More detail on this topic was obtained from the DP coordinators interviewed in their responses to the question, "What has been the impact of implementing the DP on the school environment?"[17] In some cases, interviewees spoke of a positive school environment:

> *There is a friendly atmosphere at the school and we are collegial.*
>
> *There is a higher level of dedication to studies and this is good because it's important to believe "yes, we can." This makes both students and teachers feel motivated.*
>
> *We are all involved. This has generated a high level of commitment among teachers. It hasn't caused divisions; it has been well managed within the institution.*

However, about two thirds of those interviewed spoke of negative changes in the school environment, particularly in regard to relationships between DP teachers and other school staff. In a number of cases, respondents said that this was improving with time.

> *There have been problems because teachers outside the program are against it due to envy, but this is improving somewhat.*

[17] Asked in Spanish: *Cuál es el impacto de la implementación del programa en el aspecto de resultados académicos y no académicos?.*

At the beginning, it was an "adventure." There was discrimination against teachers… Now the environment is better. There is more integration.

The program is respected but there is envy among teachers not in the program.

[Teachers] see the program as complicated and don't want to get involved.

Relationships in the school: Relationships between IB and non-IB teachers are often strained, particularly in the early stages of the implementation. As shown in Table J, less than a fifth (18%) of state IB teachers responding to the survey perceived that teachers in their schools were generally in favor of DP. In contrast, state DP coordinators were more upbeat, with 65% reporting teachers generally being in favor. During site visits and interviews it was apparent that there was frequently an initial rift between IB and non-IB teachers that progressively decreased year by year. Non-IB teachers were envious of teachers in the program. Some considered the IB teachers to benefit from special treatment because they spend less time in the classroom than non-IB teachers.

Less than a fifth of teachers (15%) and about two-fifths of coordinators (40%) perceived non-DP students to be in favor of the DP in their schools. Yet, almost two-thirds of teachers (59%) and nearly three fourths of coordinators (73%) reported that DP students have positive social relationships with their non-DP classmates. Some coordinators, teachers and parents at schools visited commented that students have reduced their social circle to DP students. The rest of the school community may identify the DP students as "nerds."

Teacher/student relationships also appear to have changed within the DP. Due to differences in teaching methodologies and because of smaller class sizes, teachers are able to interact with DP students in more meaningful and personalized ways. One teacher commented on the survey:

We are more research-oriented. We seek innovative methods for our classes; we use inductive reasoning with students so they are not left with only the teacher's version. We are more caring, understanding etc.

A parent expressed amazement at the differences in student-teacher interaction in the national and Diploma programmes at one of the schools visited. He commented that the DP teachers interact much more openly with the students; they respect them; they even help them with personal problems. He considers this very different from the formal relationships that are more common in the national programme.

In addition, the DP has had an influence on family relationships. A parent commented that she doesn't get as much help from, or interaction with, her children in the DP. Parents have had to set aside scarce resources to help students meet DP requirements. They have provided computers and access to the Internet. A number

of them agreed that family life has changed in response to the need to balance DP activities and family time.

While two-thirds (65%) of DP state school coordinators perceived greater collaboration between teachers due to the implementation of DP, only a quarter of DP teachers (24%) felt that there was increased collaboration. Again, we see a wide gap in perceptions between the two groups, with coordinators describing a more positive scenario. In some cases, greater teacher collaboration was an outgrowth of becoming an IB school. A DP coordinator stated:

> *The [DP] teachers get together regularly. Each month they review the progress of the program and share successes and difficulties.*

Norms and values: There have been many changes in the norms and values of those directly involved with the DP, especially among the students. Many parents during our site visits commented on the ways that their children had changed. They spoke of students becoming more responsible, making sure that assignments were done well and on time, and prioritizing schoolwork over fun. They also talked about the students being able to express themselves well and to handle themselves with confidence in different situations. In part, these changes were attributed to their involvement in CAS.

> *There are big differences between the kids in IB and those who aren't. The IB kids are much more mannerly and they speak better.*

> *CAS is very good. They're doing work in the nursery and old folks home. It's great. Lots of kids don't value what they have at home. Kids learn how to appreciate their own grandparents. They learn how to become more self-sufficient.*

CAS projects generated great enthusiasm among students in the schools we visited and they were animated when talking about their experiences. They found value in contributing to and interacting with the larger community. During our visits to CAS projects, students were actively engaged in their assigned roles. A group from one school worked in a nutritional rehabilitation center for infants and toddlers where students participated in different tasks including washing and folding bedding and clothing, cleaning toys, playing with the children, preparing food, and making presentations on nutrition to mothers of the children being treated. At another site, students worked at a daycare center at varied tasks including beautifying the center by painting murals on walls, planning a healthy menu for the kitchen, and playing with children. At another school we observed CAS students evaluating an earlier activity where they had learned about ceramic making in a rural community. The class reviewed the objectives of the project against what they had accomplished and discussed how things could have been improved. The students confidently engaged in this reflective evaluation process.

In some schools, there were tensions related to the separation of DP students into a special cohort with access to better resources and teaching. Particularly in one locale, there was concern that an internal class system was being fostered. One father commented:

> *These kids shouldn't be made to feel like they're something so special. This is worrisome. The [whole] school is IB, not just an elite group of students. It's important for everyone to feel part of the school. IB is too much of a separate world.*

He suggested that the school make an effort to treat the IB program like another pathway or specialization, in the same way one might speak of a college major. He believed that the school should make a real effort to change their way of thinking and talking about this.

With regard to norms and values among adults, the DP seems to be offering a vision of a different, more sophisticated kind of education to those in the school community. A number of them are aware that the DP approach has influenced the re-structuring of Ecuador's high school curriculum more generally. This is encouraging a change in their understanding of what is possible both personally and professionally. A teacher stated:

> *The IB has meant a change in working patterns, from traditional to one that is more proactive. It has allowed us to develop skills in the use of technology and a global vision. We have acquired a greater sense of responsibility, organization, and independent research.*

At the same time, participation in the DP requires a change in priorities and the use of time among teachers as well as students. Teachers are spending less time with their families and communities and more time devoted to their professional responsibilities.

> *The job continues in the afternoons, nights and early mornings. We do have not weekends because the work continues. There is a lot to read, evaluate and correct, etc. Due to being teachers of this program, we have lost good relationships with our households….*

Summary

Changes in school practice were examined within three sub-categories: school design and structure; pedagogy; and school culture. The changes were seen to be mainly, but not always, positive.

With regard to changes in school design and structure, there were immediate and

noticeable changes to the physical plant at each school following the adoption of IB. This seemed to create an expectation that a higher level of education would be offered and served as an incentive to undertake the work of becoming an IB school, teacher or student. These changes also served as a conduit to the larger world via the technology that was introduced.

The other structural change was the creation in many schools of a DP track for both students and teachers. This appeared to cause tensions within the schools, especially in the beginning. There were many mentions of envy and relationship issues based on the separation between DP and non-DP.

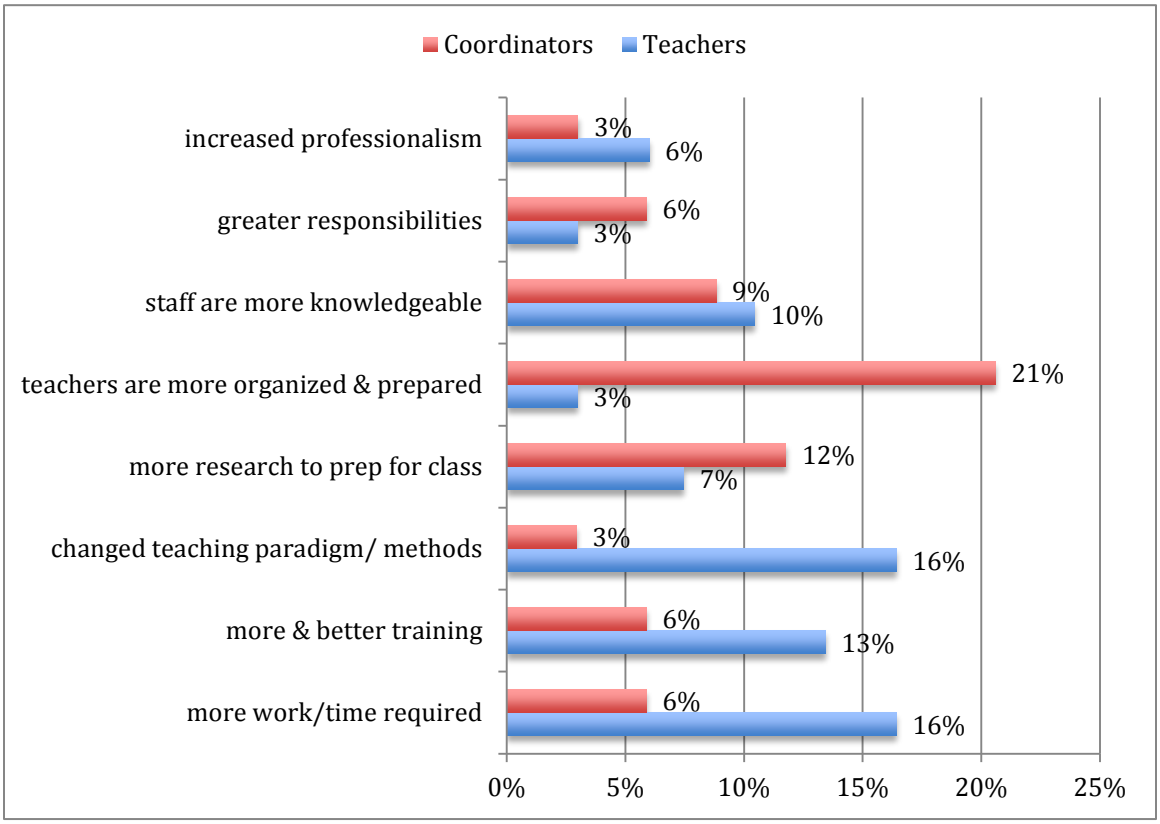
The pedagogy offered in DP was noticeably different from that in the non-DP classrooms. For the most part, DP students were offered well-organized, imaginative lessons with lots of student-teacher interaction. Students were clearly proactive about their learning, able to think in sophisticated ways, and expressed themselves well. It was a pleasure to see students so engaged with ideas as well as with community service and school leadership. At the same time, not all faculty were teaching in the interactive, thoughtful ways promoted by IB. This may be attributable in part to the difficulties school experienced with recruiting teachers and the high levels of turnover among teaching staff due to changes in assignments and retirements.

B. How has IB implementation affected teachers, administrators, and other school staff?

What are the benefits of IB implementation from the perspective of each of these groups?

Many of the benefits of DP implementation have been addressed in the sections above. However, we offer a summary in this section of the benefits as experienced by different groups. Both DP coordinators and teachers were asked in the survey, "How has the implementation of the DP affected teachers, administrators and other school personnel?" Their most frequent responses to this open-ended question are shown in Figure 3 below.

Figure 3: Ways That IB Implementation Affects School Personnel



For the most part, their responses suggest that important benefits accrue to the school, while also pointing to some of the challenges involved.

The DP coordinators who were interviewed stressed the benefits of the DP for students and teachers. They noted that students are gaining in knowledge and skills and becoming well prepared to handle university work. Even though limited numbers have earned diplomas so far, students gain in multiple ways. Many go to the university and perform well. Many of those we interviewed during our site visits reported that DP alumni who entered university have reported that they are way ahead of their peers because of the high school education they received. DP coordinators also commented on students' improved study habits, communication skills, increased responsibility, commitment to learning, and maturity.

The DP coordinators and teachers also noted that the faculty are gaining in knowledge and skill and growing as professionals. They become better at teaching and they gain in enthusiasm and commitment to their work. The access to professional development by different types of school staff is viewed as very beneficial. According to coordinators, 81% of school rectors (13) had at least attended one or two trainings. Coordinators reported attending an average of 3.5 IB trainings, and teachers reported attending an average of 3.1 trainings.

There are also benefits to the schools in joining IB. Rectors and DP coordinators interviewed agreed that the main benefits have to do with providing students with better quality education, offering a range of good learning opportunities, and preparing them well for college. Another benefit is the increased prestige attached to becoming an IB school and the additional funds that become available. The school community takes pride in students being well prepared. The larger community appreciates the quality of the facilities and the level of education offered.

What are the challenges?

Across data sources, there is agreement that the biggest challenges for schools have to do with program funding, student attrition, staff working conditions, and student performance on DP exams. Some of these overlap with those discussed in the section on the challenges faced by the Ministry in supporting DP implementation.

Program funding: Funding concerns from the point of view of schools include lack of control of the budget, being able to pay for training, adequately compensating IB teachers for the time spent preparing for class and teaching, being able to pay DP exam fees for least 25 students per year, and maintaining the science and computer labs. In addition, as noted previously, there are problems with obtaining budgeted funds in a timely manner; this especially influences access to IB training.

Many teachers felt it was unfair that they were not financially compensated for the additional work involved in teaching the DP curriculum; they had received no change in salary while the time required to fill their school-related responsibilities increased significantly. This perception may be especially troublesome as the government recently banned teachers from working in more than one educational establishment, an added limitation on income for many.

Student attrition: For some schools, one of their greatest challenges is to maintain student motivation to continue participating in the program. DP students work very hard to meet the expectations of the programme, often minimizing the time available for other activities. One coordinator reported that 50% of all IB students contribute to the maintenance of their families. Others simply want more time for friendships and out of school activities.

Staff working conditions: Almost all respondents to the survey believed that workloads had increased due to becoming an IB school. Nearly three-fourths of coordinators (71%) viewed the workload of their rector, vice rector, area coordinators, etc. to have increased. Almost all believed that IB teacher workloads had increased. In a few schools, DP coordinators (13%) and teachers (11%) believed that non-DP teacher workloads to have increased due to the programme.

Table K: Changes in Workload

	% who agreed	
	Coord	Tchr
With the IB program in the school, the workload of the rector, vice rector, area coordinators, etc. have increased.	71	44
Having the IB program in the school has increased the workload for non-IB teachers.	13	11
With IB program in the school, the workload of IB teachers has increased.	100	97

In the survey, one teacher talked about her frustrations in some detail.

> *Teachers' lives in general have changed as the work in the IB program is too demanding. Professionally speaking, there is not a moment that you are not doing something. The job continues in the afternoons, nights and early mornings. We do not have weekends because the work continues. There is a lot to read, evaluate and correct, etc. Due to being teachers of this program, we have lost good relationships in our households, and personally I feel suffocated...When I entered the IB program, I received no training and only started reading the guides-- all this sacrifice without any compensation or anything. However, I feel as though my efforts are repaid when I see my students' grades and what we have been able to do. For all of us involved in this program, our lives have changed a lot.*

A related problem is maintaining sufficient staff for the DP. As noted previously, teachers may be trained and then reassigned, especially if they are on contracts rather than permanent appointments. In some cases, there is discrimination against IB teachers. Many do not want the extra work and stress involved, especially without additional compensation. Finally, a number of DP coordinators and teachers are close to retirement age.

In an effort to prepare for the loss of trained teachers, there is some use of peer or counterpart teachers (homólogos). Under this arrangement, the homólogos attend IB training and are provided with opportunities to learn how to serve as an IB teacher so that there is a pool of people who can fill in when trained DP staff leave. However, in some schools, homólogos could not be found.

As previously discussed, the teachers often spoke glowingly of the benefits of PD, but some suggested that more opportunities to participate were needed.

> *Since we are not constantly trained, we feel discouraged.*
>
> *There was no real training on what IB is …. We blindly look for someone to lend a hand. Neither the authorities nor the coordination are concerned with*

training us so we can contribute to the development of the program. It is a shame to say so, it but it's the reality… Those in charge of IB [should do more]. It's one thing to speak from behind a desk; it's another to live the reality of the teacher who fights for a better future.

Student outcomes: Finally, there are still relatively few state school students who have earned the DP Diploma and there is some concern about this. President Correa, in a speech on the IB, spoke of the need to increase the numbers of students who attain this goal. A few of those surveyed mentioned that it is challenging to get students diploma-ready. One talked about the difficulties involved with helping students from very poor families to meet their potential.

Summary

Rectors and coordinators view that the main benefit of the DP is the providing students with a better quality education and good preparation for college. Another benefit is the increased prestige of schools due to involvement with the DP.

Teachers believe that the program's benefits lie mainly in the ability to access ongoing training, professional development opportunities, collaboration and sharing with other teachers, changes in their teaching practices and in their relationships with the students, and access to IB materials in their classes.

The main challenges facing DP are program funding, student attrition, staff work conditions, and improving student outcomes. Each of these challenges would benefit from being addressed directly as a part of the Phase Two work as they can create barriers to full, high quality implementation of the DP.

STUDENT ENROLLMENT AND PERFORMANCE

A. What are the enrollment and retention patterns of students in the Diploma Programme?

How many students are participating in the DP?
What are their demographics?

The most reliable source of information on the number of students participating in the DP in Ecuador comes from data collected by the IB on students taking exams. A data set was provided to the researchers in early 2013 containing records of all exams taken by students attending IB schools in Ecuador since the program first began in 1990. The most recent records in the data set are from 2012 (complete) and 2013 (incomplete).

Of all students who have *ever* taken a DP exam in Ecuador, their composition by gender and school type is shown in Table L. The differences in the numbers of state and private school students are explained by the numbers of schools in each category, the years that the programme has existed, and the proportion of students in each school who participate in DP. It is interesting that there is a 14 percentage-point difference between the number of girls and boys taking DP exams in state schools.[18]

Table L: Students Who Have *Ever* Taken a DP Exam

School type	Male	Female	Total	Average per school
State (15 schools)	357 (43%)	479 (57%)	836	56
Private (24 schools)	4,766 (47%)	5,324 (53%)	10,090	420

Of students who took an exam in the most recent year that complete data are available (2012), the composition is shown in Table M. We see an even greater disparity between the number of girls and boys involved.

[18] However, of all DP exams ever taken, 52% were taken by girls and 48% by boys, a difference of 4 percentage points. To provide context, according to the UNESCO country profile for Ecuador (2011), 51% of secondary students are girls.

Table M: Students Who Took a DP Exam in 2012

School type	Male	Female	Total	Average per school
State (15 schools)	105 (39%)	162 (61%)	267	18
Private (22 schools)	539 (45%)	654 (55%)	1,193	54

A secondary source on the number of students enrolled was the DP coordinator survey, to which 17 coordinators responded. From these, we have the information included in Table N on the current enrollment of DP students in the 17 state schools by grade level (as of November 2012). We see that average enrollment falls dramatically each year and that schools are serving many fewer than the 25 per grade level intended. This is discussed in more detail in the section on student attrition.

Table N: Enrollment of DP Students by Grade Level

	Male – average enrollment/school	Female – average enrollment/school	Total – average enrollment/school
1st year (pre-IB)	18*	22*	40*
2nd year (IB-year 1)	8	11	19
3rd year (IB-year 2)	5	9	14

*These figures were influenced by very high numbers at one school. Excluding that school, the average enrollments in the pre-IB year would have been 13 males, 16 females, and 29 in total.

Insight on enrollment patterns is also provided by the student enrollment in the DP at the four schools visited by the research team, as shown in Table O.

Table O: Enrollment in Schools Visited

School	DP – 1st year	DP – 2nd year
1	60	60
2	25	7
3	12	13
4	20	12

What is the admissions process for students?

At most state schools, students selected for the DP are the highest performing students in each cohort. Some of them spend their 1st year of high school (equivalent to 10th grade in the US) in a "pre-IB" year in which the school offers instruction and a level of rigor that are well aligned with what students will experience in the actual DP. According to the coordinator interviews, their admissions policies follow official policy on student selection. One said:

> *The selection criteria applied are those indicated in the Ministerial Agreement. Among them are the students' academic history, their discipline record, leadership, community participation, and the approval and participation of their parents.*

At the same time, there was some variation in the evidence used in considering students' qualifications. Some coordinators mentioned having students take a special school-developed test; others considered performance in academic contests; several conducted interviews with students and parents. Some indicated that they consider whether students are hard working. One mentioned taking into account whether students have access to a laptop computer and funds to pay for the projects that they would need to carry out. Several referred to making efforts to enroll students from other schools in the province.

During site visits, there was also an opportunity to ask coordinators about their admissions procedures. The four schools had similar requirements for students to be admitted:

- Earning a score of at least 17 out of 20 on the national exams.
- Having participated in the pre-IB year at the school.
- Completing an interview with the coordinator or selection committee.
- Signing a commitment letter between the school and the student and their parents.

In no cases were students from other schools in the province attending the IB program. In two of the four schools visited, it was required that IB students have attended that school through their secondary education.

Why do the students choose to enroll in the DP?

The best source of information available to us on why students enroll in the DP was parent interviews, conducted at each of the four schools visited. While a number of parents emphasized the value of DP in accessing opportunities to study in other countries, they were also interested in the quality of the education provided by the DP experience. One said, "it's the best education available in the country; it's really different from others."

In addition, parents spoke of a range of ways that they expected participation in the DP to benefit their children:

> *Better opportunities and better-prepared teachers. Better personal development. This is what all parents want for their kids.*

> *The kids are learning independence and how to help society; it's really important.*

The biggest benefit is personal growth; also there are lots of opportunities to study in other countries. They easily adapt to new settings (except for the language). My daughter wants to work at NASA.

The past classes have done well. They don't have any problems in the universities. It's worth the sacrifices to be able to get ahead in the world, to have a good career.

Parents also made the point that enrolling in the DP involved sacrifice for both the students and the family; most said that they left the final decision up to their child on whether they considered it to be worth the extra effort.

It was a big change for the family—we aren't doing as many family activities because the kids have to study. But at the same time we are excited about their achievements.

To what extent are DP students representative of the student population at large?

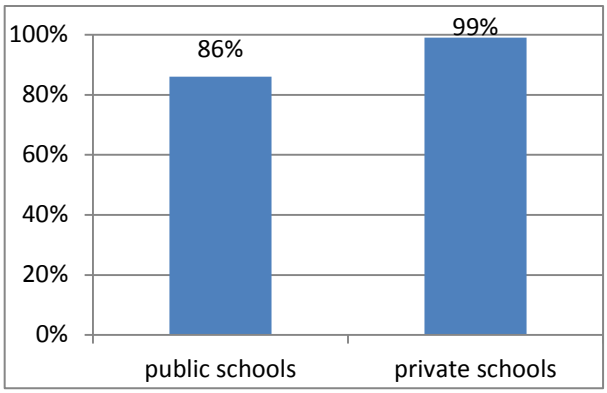
Students selected to enter the DP are considered the most academically capable of those who attend the school. In the 17 schools whose coordinators responded to the survey, the average student population was 1844. The average number of students participating in pre-IB and IB in these schools was 73. Thus, the DP students are academically in the top 4% of their schools and cannot be considered representative of the student population at large.

At the same time, these are not students from privileged backgrounds. The coordinators interviewed were asked about the socio-economic status of the students in the DP. Almost universally, they said that students were from lower, lower-middle, or middle class backgrounds. In the site visits, it was also clear that, with the exception of one school, the students were not well off. We were told stories of students that struggle with hunger (and even faint) because they are required to stay at the school for longer hours to participate in the DP and don't have funds to buy lunch.

What is the retention of students through the program?

The within-year retention of DP students is high. In the DP coordinator survey, we asked, "Of all students who participated in the IB programme during the past school year, 1) how many began the year enrolled in the program, and 2) how many were still enrolled at the end of the year?" The percent that stayed with the program through the year was high for both state and private schools as shown in Figure 4.

Figure 4: Students Retained in IB During the Academic Year



However, the year-to-year decline of students is much higher as can be seen in Table N above. While the state schools enrolled an average of 40 students into pre-IB, an average of 19 students were enrolled in the first year of DP and 14 in the second year of DP. The average decline from the first year of DP to the second was 26%.

Coordinators responding to the survey reported that the top reasons for students' deciding to leave were that DP was academically challenging (stated by 47% of those with students who had dropped) or that students had other priorities (33%). Other reasons included financial difficulties (23%), concerns about passing exams (13%), and wanting to be with non-DP friends (13%).

During the site visits, parents talked about some of the reasons why students may have left the DP. They mainly had to do with the workload and related stress.

> *There are only 7 students in the second year. Not all the students wanted to deal with so much stress. Students have to want to work.*

At one school in particular, parents said that some students had left the DP due to a lack of financial resources. The CAS activities and research projects required materials and access to the Internet outside of school.

B. What is the impact of implementation and adoption of DP on student scholastic and non-scholastic outcomes?

What are student outcomes on measures of school performance (course grades, year-to-year promotion, graduation, matriculation to college)? How do these compare with student outcomes before IB was introduced to the school?

We asked questions about year-to-year graduation and matriculation to college on the coordinator survey; however the data that resulted were not useable. The one type of performance data available to us is the IB data set of DP exams; results on these are reported below. It should be noted that DP coordinators and teachers believed that even those students not performing well on exams were benefiting a

great deal from participating in the program. Both state and private DP coordinators (89%) and teachers (87%) agreed that their DP students are well prepared for university studies.

How well do students perform on DP exams? How do they compare with DP students internationally?

Figure 5 shows the number of DP exams that students in Ecuador have taken between 2006 and 2012. The number of exams taken in state schools has dramatically increased since 2010.

Figure 5: Exams Taken by Type of School

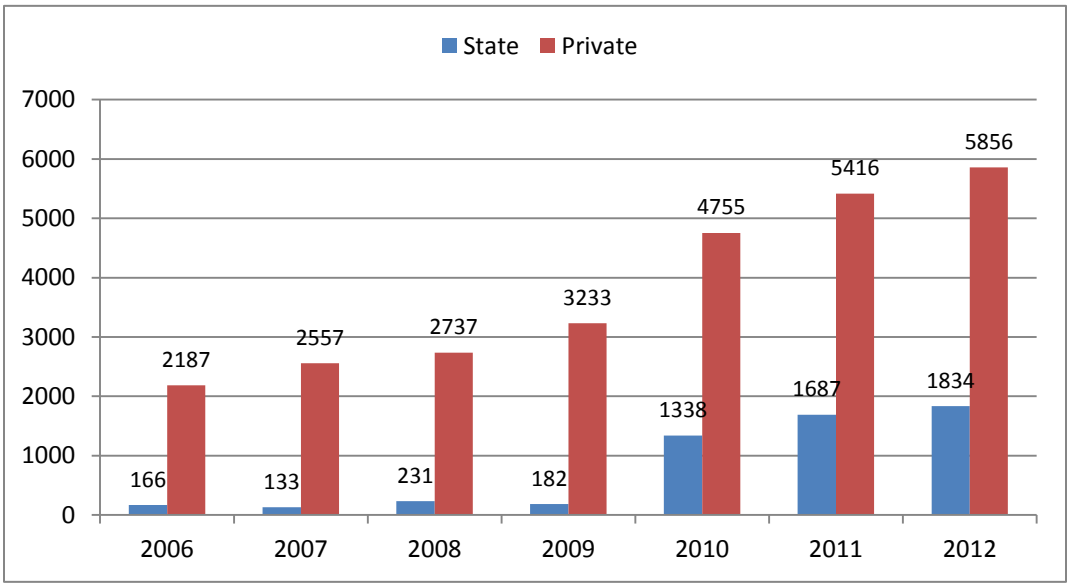


Table P shows the number of exams *ever taken* in Ecuador's state schools, the average score obtained and the standard deviation (a measure of the dispersion of the scores). The exams are scored on a scale of 1 to 7, with 7 being high. A total of 4072 exams were taken with an average grade earned of 3.51.

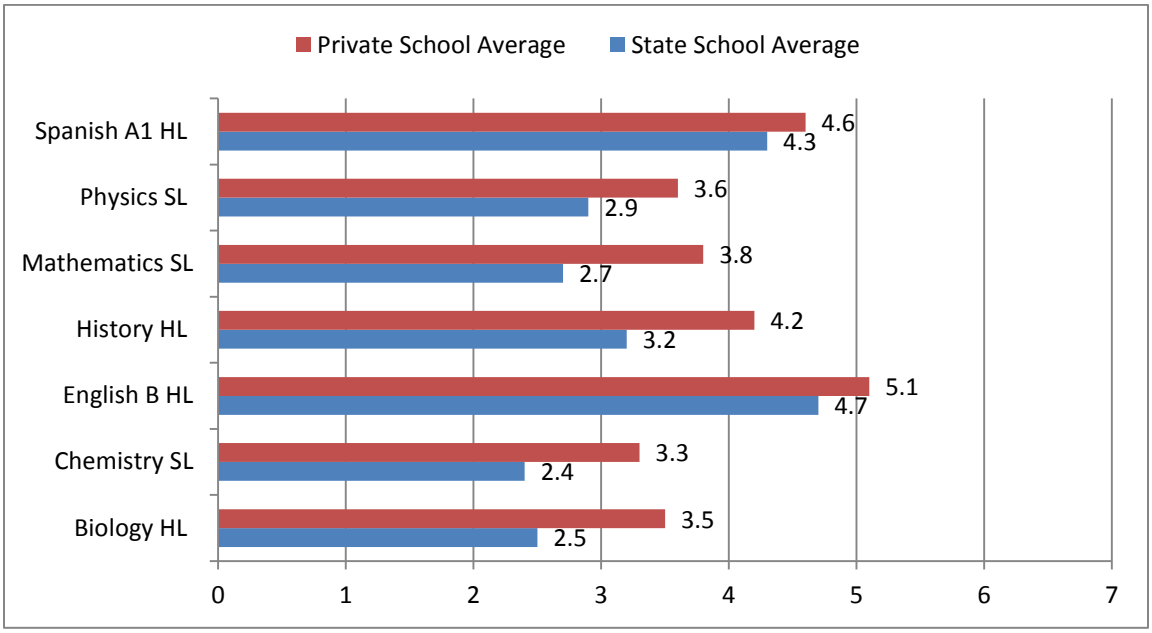
Table P: Performance on Subject Exams

Subject	Average grade	Number of exams	Standard deviation
Biology HL	2.49	378	.795
Biology SL	3.12	115	.938
Business and management HL	3.34	71	.810
Chemistry SL	2.44	326	1.059
Chemistry HL	1.98	43	1.080
Computer science SL	3.03	30	.928
Economics HL	3.25	8	.707

Economics SL	4.13	39	.833
English AB SL	5.19	484	1.153
English B HL	4.73	142	.752
English B SL	5.13	62	.778
Environment and society SL	3.00	18	.970
Environmental systems SL	4.36	11	.505
History HL	3.22	651	.848
History SL	3.77	35	1.003
ITGS SL	4.29	35	.860
Math studies SL	2.92	77	1.233
Mathematics HL	3.29	28	1.243
Mathematics SL	2.70	577	1.206
Philosophy HL	4.75	24	1.152
Philosophy SL	3.75	4	.957
Physics HL	3.60	20	1.231
Physics SL	2.94	235	1.129
Spanish A1 HL	4.33	668	.909
Total	**3.51**	**4072**	**1.381**

To put this performance in perspective, we offer two comparisons. The first, in Figure 6, shows how students in state and private schools in Ecuador perform. The figure includes all years for which data are available, but excludes subjects in which fewer than 100 exams were ever taken.

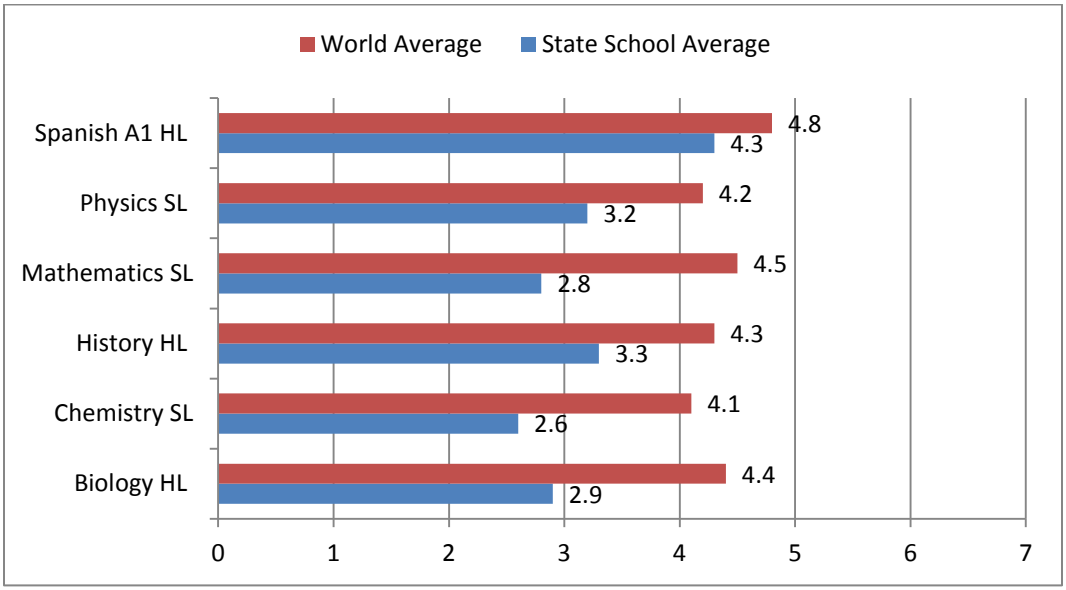
Figure 6: Grades Earned In Exams Ever Taken



DP students in state schools performed comparably to those in private schools on language exams—both in English B and Spanish. In other subject area exams, private school students generally performed better, although the differences were not large.

A second comparison is between Ecuador's state schools and results from around the world. Figure 7 shows results for exams taken in May 2012, the most recent exam date for which data were available to the researchers.

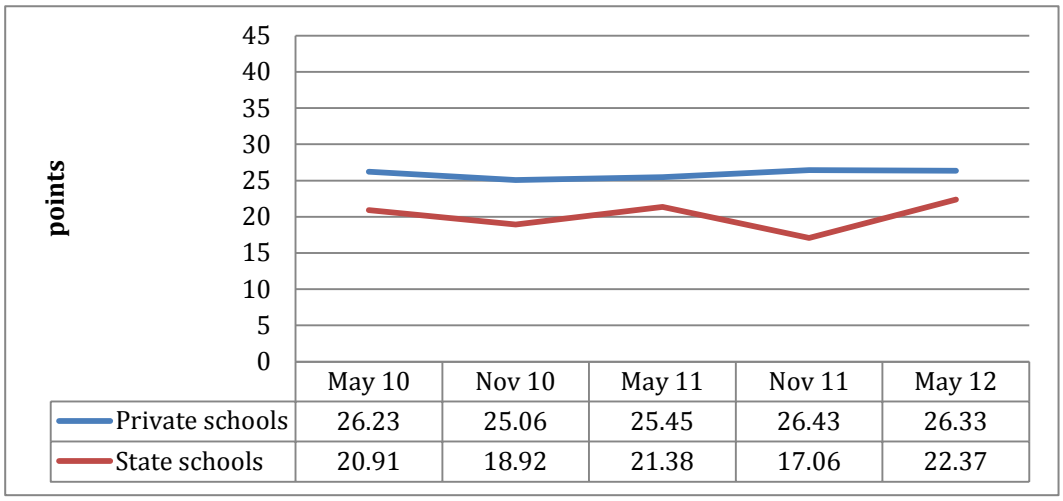
Figure 7: Comparison of Major Subject Exam Results in May 2012



As with the prior comparison, students in Ecuador's state schools obtained results similar to those of the rest of the world in Spanish. They were well behind the world average in the other subject areas on which they can be compared.

Further, we looked at the average number of points earned toward a DP diploma by students in state and public schools in Ecuador, out of a possible 45 points.

Figure 8: DP Points Earned



	May 10	Nov 10	May 11	Nov 11	May 12
Private schools	26.23	25.06	25.45	26.43	26.33
State schools	20.91	18.92	21.38	17.06	22.37

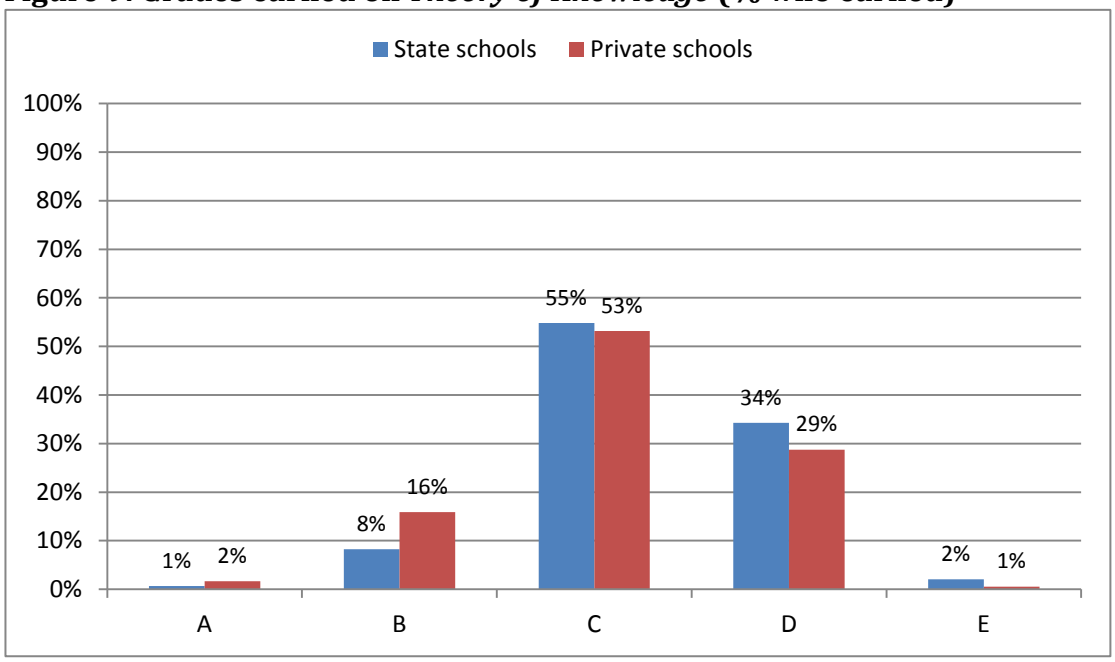
During the five most recent exam periods for which we had data, private school students, on average, earned between 25.06 and 26.45, showing very little variation. State school students earned fewer points and there was greater variation, with points earned averaging between 17.06 and 22.37.

How well do students perform on assessments of their Theory of Knowledge coursework, extended essay, and CAS (creativity, action, service). How do they compare with DP students in private schools?[19]

From the data set obtained from IB, we were able to look at student performance on the Theory of Knowledge exam. Figure 9 shows the percent of students from state and private schools who earned grades A-E on the exam in May 2012. There is very little difference between state and private schools with respect to their scores for TOK. If the scores were to be converted from letter grades to number grades on a 4-point scale (where A = 4.0), the average state school student earned a 1.71 score, while the average private school student earned a score of 1.89, a relatively small difference.

[19] The original language in the research question calls for a comparison with international schools. We changed this to a comparison with private schools in Ecuador. We considered it a useful comparison and we had data available for parallel time periods.

Figure 9: Grades earned on *Theory of Knowledge* (% who earned)



With regard to the extended essay, the majority of state school students opted to write on subjects related to biology (33% of the total), history (27%), or Spanish (17%) as shown in Table Q. The table includes extended essays ever written in state schools. Subjects with fewer than 10 essays ever written have been removed but are included in the final percentage calculation.

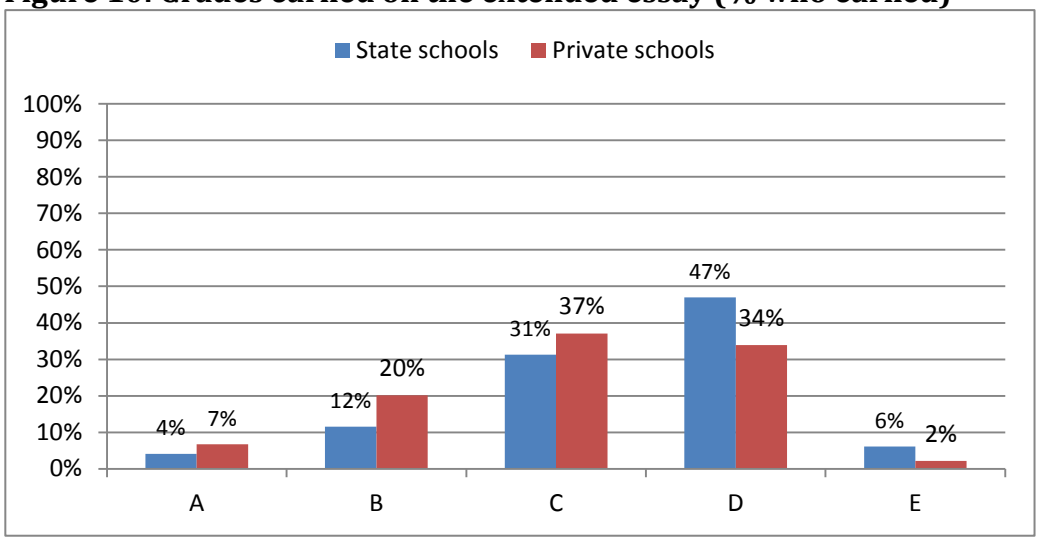
Table Q: Extended Essay Subjects

Subject of essay	Number ever done	% of total
Biology	227	32.8
Business and Management	20	2.9
Chemistry	42	6.1
Environment and Society	14	2.0
History	189	27.3
Mathematics	14	2.0
Physics	27	3.9
Psychology	17	2.5
Spanish A1	117	16.9
Total	**693**	**100**

To examine their performance on the extended essay, we once again looked at grades earned in state and public schools in Ecuador in May 2012. In this case, students in private schools performed somewhat better than their state school counterparts as shown in Figure 10. If the scores were to be converted from letter grades to numbers on a 4-point scale (where A = 4.0), the average state school

student earned a 1.95 score, while the average private school student earned a score of 1.61, a more substantial difference.

Figure 10: Grades earned on the extended essay (% who earned)



To look at student performance related to Creativity, Action, and Service (CAS), we do not have any quantitative data available. However, 93% of DP teachers surveyed agreed that students benefited from participating in CAS. Further, we were able to talk extensively about CAS with interviewees on our site visits and visited three CAS activities. We also spent time reviewing CAS projects done at the fourth school, including a highly valued Inter-CAS, an annual convening of students and school personnel involved in a large community service effort and sharing of ideas and experiences.

We emerged from these experiences with a great appreciation for the ways that CAS is changing the lives of students and the school as a whole. There was a very high level of commitment to this aspect of the DP; it was in no way an after-thought or considered less vital than regular course work. School faculty expressed great pride in the projects undertaken and the ways that they influenced students' maturity, empathy, and leadership skills. Students and parents spoke eloquently about how these experiences had benefited the recipients of the volunteer labor as well as the students themselves.

Summary

Admissions processes are fairly consistent across schools and largely based on government policies. However, schools are having difficulty enrolling and retaining 25 students per cohort. It appears that the most important barrier to participation is the amount of work involved to be successful in DP. At the same time, many schools are bringing in students via a pre-IB year; this appears to be a good way to help students develop the skills necessary to persist and perform well. More girls than

boys are participating in the programme. Students are representative of the school population in terms of socio-economic status, but not in terms of prior achievement. They are generally the most academically advanced in their schools.

Students in state school DPs are taking large numbers of exams. They performed comparably to those in private schools on language exams in 2012—both in English and Spanish. In other subject area exams, private schools generally performed better. Students in state schools obtained results similar to those of the rest of the world in languages. They were well behind the world average in the other subject areas.

While exam grades are not high, students are gaining from participating in the DP in a variety of important ways including reported university performance, communication skills, critical thinking, maturity, and self-confidence.

Implications and Recommendations

The DP appears to be having a profound impact on state education in Ecuador. The schools that initially undertook the challenge of implementing the programme are gaining a vision of what it takes to offer a meaningful, life-changing education and improving their capacity to do so. Many students are gaining; teachers are growing as professionals. What is more, the expansion initiative in Ecuador represents an unprecedented commitment by a government to reforming education across the socio-economic spectrum. In this setting, IB has an opportunity to fully realize the potential of its model in terms of advancing student learning and growth across a wide range of settings and socio-economic sectors.

However, multiple barriers stand in the way to reaching the full potential that this opportunity represents. Not all of these barriers can be easily addressed; however explicitly addressing them is important. This will require time and financial resources, both of which can be in short supply. The following are the principal barriers that we believe need to be considered. We also include recommendations, which should be taken as "food for thought," rather than clear prescriptions.

1. *School support*: This barrier overlaps in various ways with others below. School leaders, especially DP coordinators, are struggling to accomplish an extremely difficult task. They are juggling multiple responsibilities, and confronting a range of difficulties, often in relative isolation. The Phase One schools currently implementing IB are relatively well prepared for this task. The Phase Two schools are likely to be more diverse and less well resourced.

   It appears unlikely that the Ministry of Education will be able to provide all of the supports that schools need, especially without strong, continual encouragement from IB. While the Association membership is a great resource, it is not likely that they can provide extensive assistance to schools.

Further, the traditional IB system for authorizing schools is designed to insure that schools can meet the required Standards and Practices, not to support them in addressing the varied challenges that arise in the initial years of implementation. The current work to support and coordinate the work of consultants is important, but may not be sufficient.

Thus, it is currently unlikely that schools will receive enough support to be successful in large numbers.

Recommendations: Based on observations during site visits and responses of DP coordinators and teachers to interview questions and surveys, it appears that there is a great need for easily accessible support for schools. We believe that IB should consider staffing a field office in Quito and/or Guayaquil for a period of at least five years. Ideally, the office would quickly move to establish strong relationships with the people at the Ministry of Education who are able to resolve problems and to form working committees to address important areas of the DP scale-up.

Whether or not a field office is established, we believe it would be helpful to new schools to receive quarterly visits from staff or consultants to help them resolve problems with implementation during the first year following authorization, with less frequent visits made in subsequent years.

In addition, a wider range of training options could be provided, including more online or hybrid offerings.

2. *Financial management:* It is difficult for schools to function well without a clear, guaranteed, multi-year budget for the DP. In some ways, it is more important that it be predictable than large to allow careful, high quality planning to be done. Further, there are times when current financial management procedures present a barrier to enrollment in much needed trainings and IB events.

Recommendations: A new Memorandum of Agreement is needed governing the Phase Two schools that guarantees the budget for IB-led functions as well as the allotment given to individual schools.

We recommend that DP coordinators be allowed to make reservations for IB workshops without immediate payment. Perhaps the reservation payment could be guaranteed by IB. Alternatively, IB could be provided funds from the Ministry to offer a specified number of workshop seats to each school; under this plan, no funds would need to change hands at the time of workshop registration.

3. *Student recruitment and persistence*: While students gain a great deal from participating in the DP, they also confront important barriers to sustaining their involvement. Research suggests that barriers to participation are likely to have the greatest impact on the least advantaged students (Pascarella & Terenzini, 2005). Most importantly, it is important to ameliorate financial barriers including funds for lunch and such expenses as Internet access and

copies. A less tangible set of barriers comes from having to devote extensive time to participation in DP and giving up other important priorities such as time with friends and family.

Recommendation: A number of the barriers that have to do with resources could be addressed with relatively small amounts of money. Perhaps CAS projects (fundraising events?) could be set up to support the purchase of school supplies in other schools. Perhaps *comedores* could be set up to offer student lunches, organized by parent groups. Perhaps US schools could send "CARE packages." We would recommend a national or regional cross-school parents committee be established to focus on how to make sure that financial need is not a barrier to participation.

Clearly, the DP will always require an extensive investment of time—and this is a good thing. However, all students need to learn how to be good managers of time and to balance life's demands. It might make sense to develop a DP student time management tool kit that schools could use to help students learn good time management skills.

4. *Teacher compensation and support*: Teachers benefit immensely from participating in IB, but face four important barriers to participating effectively and with enthusiasm. First, they work very hard and many appear to be heading toward burnout. Second, the amount of work involved does not seem to be rewarded with commensurate compensation or recognition. Third, many of them struggle to learn what they need to know in IB's relatively short workshops and via online research. Fourth, they become isolated, partly due to tensions between DP and non-DP teachers within their schools. In addition, teachers are frequently subject to re-assignment, leaving key vacancies in schools' teaching staff.

Recommendations: Research indicates that one-time workshops are a less effective form of professional development (Loucks-Horsley & Matsumoto, 1999); they may not provide enough support for teachers during their first year or two working with the DP. At the same time, participation in workshops, especially those involving travel, is costly.

There are three ideas proposed here that could address DP teachers' need for knowledge, support, and recognition (undoubtedly, many others are possible): 1) Each DP teacher could have an individual PD plan worked out and reviewed with the IB representative making the quarterly visits to the school; the visitor could assist the teacher with meeting the goals/benchmarks in the plan and build on content learned in face-to-face workshops. A certificate could be awarded to those that fulfill their plans. 2) One of the universities partnering on this research could develop an online certificate for those teaching in DP. They could have segments that cover general knowledge, dealing with pedagogy primarily, and others that deal with subject-specific content. 3) Master teachers could be identified within the IB world who could mentor new DP teachers in the same subject area.

The issue of compensation for DP teachers came up repeatedly. There are also issues with the ways that teachers are assigned and contracted with that have an impact on the quality of DP instruction. This should be studied carefully by a committee comprised of IB, Ministry, and Association representatives; it should include a number of teachers.

Conclusion

In sum, IB and the Government of Ecuador have an unprecedented opportunity to use the Diploma Programme to dramatically improve education on a national scale and among students who have few economic advantages. This initiative has a strong beginning, but is at an important tipping point. It will be important to invest the time and resources necessary to make this effort a success.

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Loucks-Horsley, S. and Matsumoto, C. (1999), Research on Professional Development for Teachers of Mathematics and Science: The State of the Scene. School Science and Mathematics, 99: 258–271.

Appendices

A. List of interviewees
B. Interview protocols (English)
    a. MOE representatives (in-person interviews)
    b. DP coordinators of state schools (telephone interviews)
    c. IB regional officers (telephone interviews)
    d. School head interviews (site visit)
    e. DP coordinator interviews (site visit)
    f. Teacher interviews (site visit)
    g. Parent interviews (site visit)
C. Tabulation of DP coordinator and teacher survey responses
D. Summary of the findings of the DP coordinator interviews (from Aguirre Montero and Puente Palacios)
E. Summary of the findings of the site visit research (from Tokuhama-Espinosa and Rivera)

Appendix A. Interviewees

Name	Position	School	Interview Type
	IB Coordinator	School A, Quito	Site Visit
	Rector	School A, Quito	Site Visit
	CAS Coordinator	School A, Quito	Site Visit
	Counselor	School A, Quito	Site Visit
6 parents	Parents	School A, Quito	Site Visit
	Mather Teacher	School A, Quito	Site Visit
	Physics Teacher	School A, Quito	Site Visit
	IB Coordinator	School C, Guayaquil	Site Visit
	Rector	School C, Guayaquil	Site Visit
	Teacher: Biology	School C, Guayaquil	Site Visit
	Teacher: Math	School C, Guayaquil	Site Visit
2 mothers, 1 father	Parents	School C, Guayaquil	Site Visit
	IB Coordinator	School D, Tena	Site Visit
	CAS Coordinator	School D, Tena	Site Visit
	Teacher: Chemistry	School D, Tena	Site Visit
	Teacher: English	School D, Tena	Site Visit
	Teacher: Research methods	School D, Tena	Site Visit
	Vice Rector	School D, Tena	Site Visit
8 parents	Parents	School D, Tena	Site Visit
	Rector	School D, Tena	Site Visit
	CAS coordinator	School B, Guayaquil	Site Visit
	IB Coordinator	School B, Guayaquil	Site Visit
	Rector	School B, Guayaquil	Site Visit
	Teacher: Math	School B, Guayaquil	Site Visit
7 parents	Parents	School B, Guayaquil	Site Visit

	Teacher: English	School B, Guayaquil	Site Visit
	Teachers: Literature	School B, Guayaquil	Site Visit
	Vice Minister of Education	Ministry of Education, Quito	In-person interview
	Subsecretario de Coordinación Educativa	Ministry of Education, Quito	In-person interview
	Subsecretaria de Fundamentos Educativos	Ministry of Education, Quito	In-person interview
	IB General Coordinator	Ministry of Education, Quito	In-person interview
	Director de Investigación Educativa	Ministry of Education, Quito	In-person interview
	Coordinador zonal, antiguo responsable del BI	Ministry of Education, Quito	In-person interview
	IB Coordinator		Telephone interview
	IB Coordinator		Telephone interview
	IB Coordinator		Telephone interview
	IB Coordinator		Telephone interview
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	IB Coordinator		Telephone interview
	IB Coordinator		Telephone interview
	IB Consultant	Buenos Aires, Argentina	Telephone interview
	School Staff	Quito	Telephone interview
	IB Regional Staff	IBO, Bethesda, MD, USA	Telephone interview
	IB Association Staff	Quito	Telephone interview
	IB Regional Staff	IBO, Bethesda, MD, USA	Telephone interview

Appendix B: Interview Protocols

INTERVIEW PROTOCOL MINISTRY OF EDUCATION OFFICIALS

This interview is part of a study being carried out nationwide by a team led by researchers from Teachers College at Columbia University in New York. It is designed to learn about the implementation and impact of the Diploma Programme (DP) of the International Baccalaureate Organization in Ecuador. It has a particular a focus on school culture and teaching practices. All research procedures will follow the relevant ethics guidelines. Could you please read and sign the letter of consent.

Name of interviewee:

Title:

Role (general and in relation to BI):

Number of months / years in this role:

Name of researcher:

Date of interview:

Note: The following questions are a guide to systematize the interview, but in its development might encounter some issues requiring additional questions.

ISSUES

1. What is the Ministry of Education's role in relation to IB in Ecuador?
2. What key activities does the Ministry carry out to support this *program? [In general; for individual schools]*
3. What were the main successes related to BI program so far?
4. What are the biggest challenges for the State to implement the BI?
5. What criteria managed by the Ministry of Education to authorize schools wishing to enter the IB program?
6. Pursued by the Ministry of Education to increase the number of schools offering the IB?
7. What are the advantages of increasing the number of schools in the country with BI?
8. What are the difficulties involved?

9. What goals have been set by the Ministry to increase the number of schools with the IB program?

10. Can you comment on the communication and collaboration between the Ministry and the organization of BI.

11. What else should we know about the IB program and its expansion in Ecuador?

INTERVIEW PROTOCOL FOR DIPLOMA PROGRAM COORDINATOR

By Telephone

This interview is part of a study being carried out nationwide by a team led by researchers from Teachers College at Columbia University in New York. It is designed to learn about the implementation and impact of the Diploma Programme (DP) of the International Baccalaureate Organization in Ecuador. It has a particular a focus on school culture and teaching practices. All research procedures will follow the relevant ethics guidelines.

Thank you for agreeing to be interviewed for this study. The information you share will be kept confidential, which means we will never use your name in anything we write about this topic. Due to the small sample of this study, we cannot guarantee complete anonymity. However, we will make every effort to reduce the possibility that someone would be able to link specific comments to specific individuals. For example, no individual or school names will be used in reports developed from this project.

Is it OK to proceed with the interview? ___yes ___no

Is it OK to tape record the interview, to make sure that my notes are complete? __yes __no

Title of the interviewee:

Name of school:

Role (general and in relation to BI):

Number of months / years in this role:

Name of researcher:

Date of interview:

Note: The following questions are a guide: the interviewer may encounter some issues requiring additional questions.

ISSUES

a. Number of years since the program was implemented in your school?

b. What advantages and disadvantages do you find in the IB program?

c. Many students participate in this program?

d. What admissions criteria for applicants apply to the program?

e. How to define the socio-economic characteristics of participating students?

f. Of the students of the institution, what percentage involved in this program?

g. What were the main successes related to BI program so far?

h. What challenges involved in implementing the International Baccalaureate for both managers and teachers and other members of the institution?

i. What is the impact of the implementation of the program in the following areas: Teaching?

j. What is the impact of the implementation of the program in the following areas: academic performance and nonacademic?

k. What is the impact of the implementation of the program in the following areas: the institutional environment?

l. What factors are critical to the sustainability of the program?

m. Characteristics or conditions that must be present for a successful implementation?

n. What kind of support do you receive now or in the Ministry of BI? From other schools?

o. In general, what kind of support is important for successful achievement?

p. What else should we know about the IB program and its expansion in Ecuador?

INTERVIEW PROTOCOL WITH IB REGIONAL OFFICERS

Telephone Interviews

Hello, my name is Elisabeth Barnett and I'm a researcher at Teachers College, Columbia University. As you know, we are conducting research on the evolution of the DP in Ecuador, with particular interest in the way that government schools are adopting and implementing the programme. Thank you for agreeing to talk with me today.

One of our goals is to learn more about the history of the programme and the way that IB staff have worked with the Ministry and individual schools in its development. I'd like to ask some questions that shed light on this.

1. Name/title/IB office_____
2. Where stationed_____
3. How long with IB_____

4. What has your role been with the IB-Ecuador?

IB in Ecuador

5. Please describe the history of IB in Ecuador (*prompts: overall, each programme*)

6. Please describe the way(s) that the Ministry has interacted with IB over time.

7. How would you describe the current relationship with the Ministry?

8. What inspired the current drive to implement the Diploma Programme across the country?

9. Does it appear that the high level of interest in implementing DP will be sustained?

10. What is the role of the IB staff in Ecuador (*prompts: in general, in relation to the more recent drive for expansion, in offering PD*)?

Recent expansion of IB in Ecuador

11. Please explain how new schools are brought in under the current drive for expansion?

12. Who is involved in making this happen?

13. What is the incentive for new schools to get involved?

14. What are the barriers for new schools who may consider getting involved?

15. What funding streams are involved?

16. Were there specific targets set for numbers or types of schools to bring in? Are these targets being met? Do you have any data you could share on this?

17. How would you say the current expansion drive is going?

18. How would you say these schools differ from others that have come in previously?

19. What have been the interactions with the Ministry around the current drive for expansion?

Support for new DP schools

20. What kinds of support have IB staff offered to the schools that have come in under the new initiatives? Is this any different from what would be provided to any other school?

21. What role has IB staff played in setting up mentoring arrangements between schools?

22. What more would you like to be able to do to support these schools?

Other

23. Are there any documents that would help me understand what is going on with government IB schools in Ecuador?

The Implementation of the International Baccalaureate Diploma Programme in Ecuador's State Schools

IB School Head Protocol

INTRODUCTION

Begin conversation by introducing team.

The team from Teachers College, Columbia University in New York's is working in cooperation with the *Instituto de Enseñanza y Aprendizaje* (IDEA) team from the Universidad San Francisco de Quito in Ecuador to document the development of the International Baccalaureate Diploma Programme in Ecuador's state schools.

Describe the study.

This visit to your school is part of a larger study that seeks to understand the implementation of the DP in state schools. This study involves online surveys, interviews with a range of people, and analysis of student data. This site visit today allows the research team to meet the school authorities responsible for IB implementation and to more fully understand faculty and student experiences within the IB program. The findings will be used to provide feedback to the International Baccalaureate Organization to inform the further development of its program in Ecuador.

During our visit to your school we will conduct interviews with selected staff and parents. Specifically we are interested in learning about the high school context and culture; the processes used in program implementation; and any evidence of the impact of the DP so far.

Begin the interview.

Thank you for agreeing to be interviewed for this study. The information you share will be kept confidential, which means we will never use your name in anything we write about this topic. Due to the small sample of this study, we cannot guarantee complete anonymity. However, we will make every effort to reduce the possibility that someone would be able to link specific comments to specific individuals. For example, no individual or school names will be used in reports developed from this project.

1. Do you have any questions before we begin?
2. Could you please sign this consent form.
3. Is it OK with you if we record our conversation, to make sure we don't miss anything in our notes?

IB School Head Interview

Division and School: _____

Researcher Names: _____

Introduction *(Confirm and keep brief – We should know the answers to these questions already):*

1. Could you please tell me your name and title?
2. Please briefly tell me about your professional background, and how you came to your current position at this institution.
3. Could you please give a general description of your school, such as size, special programs, etc?

About the Diploma Programme (DP)

4. Could you please describe the Diploma Programme at your school
    a. When started?
    b. Courses offered (including Theory of Knowledge)?
    c. Creativity, Action, Service activities?
    d. The extended essay
    e. Faculty involved (how are they selected)?
    f. People who have been strong supporters of the Diploma Programme?
    g. Current stage in the IB school authorization process?
    h. Major accomplishments so far (academic, social, other)?
5. What are the enrollment and retention patterns of students in the Diploma Programme?
    a. How many students are participating in the Diploma Programme? How many have participated over the years?
    b. What is the admissions process for students?
    c. Why do the students choose to enroll in the Diploma Programme?
    d. What are the DP student demographics? To what extent are DP students representative of the school population at large?
    e. What is the retention of students through the program? When and why do they tend to drop out?
6. Please describe your role as the School Head in relation to the Diploma Programme?

a. What are your responsibilities?

b. What training did you receive to perform this role? Were you satisfied with the training?

c. What do you find positive about your role? What do you find difficult?

School changes

7. What has been the impact of DP implementation and adoption on your school's design and structure?

    a. Organization of the school day?

    b. How faculty spend their time?

    c. Administration and oversight?

    d. Access to technology and equipment?

    e. How students' days are structured (especially DP students)?

    f. Record keeping and reporting?

8. What has been the impact of DP implementation and adoption on pedagogy in your school?

    a. Teacher access to professional development?

    b. Teacher knowledge of good instructional practices?

    c. Teacher knowledge of content in their discipline areas?

    d. Changes in pedagogy in the DP courses? In other courses?

    e. Changes in assessment, feedback and grading practices?

9. What has been the impact of IB implementation and adoption on school culture?

    a. School priorities?

    b. Expectations of students (climate of high expectations)?

    c. Faculty collaboration?

    d. School interactions with parents?

    e. Use of the IB Learner Profile? Standards and Practices?

f. Ways of recognizing achievements of students or staff?

10. How has IB implementation affected teachers, administrators, and other school staff?

    a. What are the benefits of IB implementation from the perspective of each of these groups?

    b. What are the challenges?

Student performance

11. What changes have you noted in students, student work, or student performance as a result of participation in the Diploma Programme?

    a. Academic

    b. Non-academic (socially, extra-curricular activities, student interests, student perceptions of themselves, etc.)

12. How well do students perform on DP exams? Do you consider this to be satisfactory performance? Please discuss.

13. Have there been any changes that you have noted in students, student work, or student performance for those who have NOT participated in the Diploma Programme?

    a. Among younger students?

    b. Among peers of DP students?

14. To what extent have students' DP scores been helpful in gaining admissions to the universities your students apply to, and/or receiving credit for college study?

Developing and supporting schools

15. What has been the role of the IB organization in helping your school establish a Diploma Programme?

    a. What was done to help your school become authorized?

    b. What was done to help you figure out how to set up your Diploma Programme?

    c. Please describe ways that people from your school have participated in IB trainings or conferences?

    d. Who from IB do you turn to if you need help on DP-related matters?

a. What assistance would you recommend for future schools implementing the Diploma Programme? That is, what would you suggest the IBO do in the future to help new schools?

16. What is the role of the Ministry of Education in the implementation of the IB in state schools?

    d. How was your school selected to participate in the Diploma Programme?

    e. What kinds of support does the state provide your school?

    f. Who in the Ministry do you turn to if you need help on DP-related matters?

    g. What are the challenges that the state faces in supporting Diploma Programme implementation?

17. Has your school received any mentorship or coaching from another school to help with implementation of the Diploma Programme? If so, what form did it take? How useful was it?

18. Please describe the kinds of financial assistance you receive in order to run the Diploma Programme? To what extent does it meet your needs?

19. For other schools considering offering Diploma Programmes, what advice would you give?

20. What else would be helpful for us to know about your school or your Diploma Programme?

THANK YOU!

The Implementation of the International Baccalaureate Diploma Programme in Ecuador's State Schools

IB Coordinators Site Visit Protocol

INTRODUCTION

Begin conversation by introducing team.

The team from Teachers College, Columbia University in New York's is working in cooperation with the Instituto de Enseñanza y Aprendizaje (IDEA) team from the Universidad San Francisco de Quito in Ecuador to document the development of the International Baccalaureate Diploma Programme in Ecuador's state schools.

Describe the study.

This visit to your school is part of a larger study that seeks to understand the implementation of the DP in state schools. This study involves online surveys, interviews with a range of people, and analysis of student data. This site visit today allows the research team to meet the school authorities responsible for IB implementation and to more fully understand faculty and student experiences within the IB program. The findings will be used to provide feedback to the International Baccalaureate Organization to inform the further development of its program in Ecuador.

During our visit to your school we will conduct interviews with selected staff and parents. Specifically we are interested in learning about the high school context and culture; the processes used in program implementation; and any evidence of the impact of the DP so far.

Begin the interview.

Thank you for agreeing to be interviewed for this study. The information you share will be kept confidential, which means we will never use your name in anything we write about this topic. Due to the small sample of this study, we cannot guarantee complete anonymity. However, we will make every effort to reduce the possibility that someone would be able to link specific comments to specific individuals. For example, no individual or school names will be used in reports developed from this project.

4. Do you have any questions before we begin?
5. Could you please sign this consent form.
6. Is it OK with you if we record our conversation, to make sure we don't miss anything in our notes?

IB Coordinators Interview

Division and School: _____

Researcher Names: _____

Introduction *(Confirm and keep brief – We should know the answers to these questions already):*

1. Could you please tell me your name and title?
2. Please briefly tell me about your professional background, and how you came to your current position at this institution.
3. Could you please give a general description of your school, such as size, special programs, etc?

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    d. The extended essay
    e. Faculty involved (how are they selected)?
    f. People who have been strong supporters of the Diploma Programme?
    g. Current stage in the IB school authorization process?
    h. Major accomplishments so far (academic, social, other)?
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    f. How many students are participating in the Diploma Programme? How many have participated over the years?
    g. What is the admissions process for students?
    h. Why do the students choose to enroll in the Diploma Programme?
    i. What are the DP student demographics? To what extent are DP students representative of the school population at large?
    j. What is the retention of students through the program? When and why do they tend to drop out?
6. Please describe your role as the DP coordinator?

a. What are your responsibilities?

b. What training did you receive to perform this role? Were you satisfied with the training?

c. What do you find positive about your role? What do you find difficult?

School changes

7. What has been the impact of DP implementation and adoption on your school's design and structure?

    g. Organization of the school day?

    h. How faculty spend their time?

    i. Administration and oversight?

    j. Access to technology and equipment?

    k. How students' days are structured (especially DP students)?

    l. Record keeping and reporting?

8. What has been the impact of DP implementation and adoption on pedagogy in your school?

    a. Teacher access to professional development?

    b. Teacher knowledge of good instructional practices?

    c. Teacher knowledge of content in their discipline areas?

    d. Changes in pedagogy in the DP courses? In other courses?

    e. Changes in assessment, feedback and grading practices?

9. What has been the impact of IB implementation and adoption on school culture?

    a. School priorities?

    b. Expectations of students (climate of high expectations)?

    c. Faculty collaboration?

    d. School interactions with parents?

    e. Use of the IB Learner Profile? Standards and Practices?

f. Ways of recognizing achievements of students or staff?

10. How has IB implementation affected teachers, administrators, and other school staff?

    c. What are the benefits of IB implementation from the perspective of each of these groups?

    d. What are the challenges?

Student performance

11. What changes have you noted in students, student work, or student performance as a result of participation in the Diploma Programme?

    a. Academic

    b. Non-academic (socially, extra-curricular activities, student interests, student perceptions of themselves, etc.)

12. How well do students perform on DP exams? Do you consider this to be satisfactory performance? Please discuss.

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14. To what extent have students' DP scores been helpful in gaining admissions to the universities your students apply to, and/or receiving credit for college study?

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15. What has been the role of the IB organization in helping your school establish a Diploma Programme?

    a. What was done to help your school become authorized?

    b. What was done to help you figure out how to set up your Diploma Programme?

    c. Please describe ways that people from your school have participated in IB trainings or conferences?

    d. Who from IB do you turn to if you need help on DP-related matters?

b. What assistance would you recommend for future schools implementing Diploma Programmes? That is, what would you suggest the IBO do in the future to help new schools?

16. What is the role of the Ministry of Education in the implementation of the IB in state schools?

    h. How was your school selected to participate in the Diploma Programme?

    i. What kinds of support does the state provide your school?

    j. Who in the Ministry do you turn to if you need help on DP-related matters?

    k. What are the challenges that the state faces in supporting Diploma Programme implementation?

17. Has your school received any mentorship or coaching from another school to help with implementation of the Diploma Programme? If so, what form did it take? How useful was it?

18. Please describe the kinds of financial assistance you receive in order to run the Diploma Programme? To what extent does it meet your needs?

19. For other schools considering offering Diploma Programmes, what advice would you give?

20. What else would be helpful for us to know about your school or your Diploma Programme?

THANK YOU!

The Implementation of the International Baccalaureate Diploma Programme in Ecuador's State Schools

IB Teachers Site Visit Protocol

INTRODUCTION

Begin conversation by introducing team.

The team from Teachers College, Columbia University in New York's is working in cooperation with the *Instituto de Enseñanza y Aprendizaje* (IDEA) team from the Universidad San Francisco de Quito in Ecuador to document the development of the International Baccalaureate Diploma Programme in Ecuador's state schools.

Describe the study.

This visit to your school is part of a larger study that seeks to understand the implementation of the DP in state schools. This study involves online surveys, interviews with a range of people, and analysis of student data. This site visit today allows the research team to meet the school authorities responsible for DP implementation and to more fully understand faculty and student experiences within the Diploma Programme. The findings will be used to provide feedback to the International Baccalaureate Organization to inform the further development of its program in Ecuador.

During our visit to your school we will conduct interviews with selected staff and parents. Specifically we are interested in learning about the high school context and culture; the processes used in program implementation; and any evidence of the impact of the DP so far.

Begin the interview.

Thank you for agreeing to be interviewed for this study. The information you share will be kept confidential, which means we will never use your name in anything we write about this topic. Due to the small sample of this study, we cannot guarantee complete anonymity. However, we will make every effort to reduce the possibility that someone would be able to link specific comments to specific individuals. For example, no individual or school names will be used in reports developed from this project.

7. Do you have any questions before we begin?
8. Could you please sign this consent form?
9. Is it OK with you if we record our conversation to make sure we don't miss anything in our notes?

Appendix C. Tabulation of DP coordinator and teacher survey responses

	% who agreed					
	Total		Coordinators		Teachers	
	Coord	Tchr	State	Private	State	Private
1. Support & Development (MOE, IB & mentoring)						
• Our school has sufficient financial resources to run the IB program.	58	64	24	90	29	93
• We have received help from the IB organization in setting up and running our IB program.	97	87	100	94	87	86
• The IB organization supports the development of the IB program financially.	9	N/A	13	6	N/A	N/A
• The IB organization supports the development of the IB program by offering training.	94	N/A	88	100	N/A	N/A
• The IB organization supports the development of the IB program by offering advice or guidance.	88	N/A	94	82	N/A	N/A
• The IB organization supports the development of the IB program through providing educational materials or resources.	82	N/A	81	82	N/A	N/A
• The IB organization supports the development of the IB program through providing reports or data on student progress.	48	N/A	43	53	N/A	N/A
• We have received help from the Ministry of Education in setting up and running our IB program.	51	58	82	35	80	37
• The MOE supports the development of the IB program financially.	49	N/A	94	0	N/A	N/A
• The MOE supports the development of the IB program by offering training.	48	N/A	81	13	N/A	N/A
• The MOE supports the development of the IB program by offering advice or guidance.	38	N/A	65	7	N/A	N/A
• The MOE supports the development of the IB program through providing educational materials or resources.	36	N/A	69	0	N/A	N/A
• The MOE supports the development of the IB program through providing reports or data on student progress.	3	N/A	7	0	N/A	N/A

	Total		Coordinators		Teachers	
	Coord	Tchr	State	Private	State	Private
• We have received cooperation of other institutions in the implementation and development of the IB program.	49	30	65	31	29	31
• We have contact with other IB schools.	94	N/A	94	95	N/A	N/A
• We have contact with teachers from other IB schools.	N/A	68	N/A	N/A	67	68
• Parents in our community are generally in favor of the IB program.	94	82	88	100	80	83
2. School Change						
• My school has changed for the better as a result of the IB program.	100 47 strong 53 agree	85 31 strong 54 agree	100 29 strong 71 agree	100 63 strong 37 agree	81 21 strong 60 agree	88 40 strong 49 agree
• Our school's academic program is stronger because of our participation in the IB program.	97	81	94	100	65	93
2.1. School Change—Design & Structure						
• The teachers in our school collaborate with each other more because of the IB program.	78	48	65	90	24	67
• Our school makes efforts to prepare younger students to enter and succeed in the IB program.	78	62	59	95	44	76
• It has been difficult to administer the IB exams at our school.	31	49	47	17	63	36
• We use the IB Standards and Practices to make decisions about the IB program.	97 47 strong 50 agree	91 38 strong 53 agree	100 41 strong 59 agree	95 53 strong 42 agree	90 34 strong 56 agree	92 43 strong 49 agree
• We regularly use the IB Learner Profile in our school.	100 64 strong 36 agree	94 45 strong 49 agree	100 59 strong 41 agree	100 68 strong 32 agree	98 48 strong 50 agree	91 43 strong 48 agree
• Only the students enrolled in the IB program benefit from the IB program.	(N/A)	(N/A)	40	(N/A)	73	(N/A)
2.2. School Change—Pedagogy						
• Our school has more access to teaching tools and resources because of the IB program.	94	81	94	95	77	84
• Teachers in our school have more access to professional development (training) because of the IB program.	86	69	82	90	53	82

	Total		Coordinators		Teachers	
	Coord	Tchr	State	Private	State	Private
• I have changed my teaching due to my involvement with the IB program.	N/A	88	N/A	N/A	90	85
• I have changed the way I assess students due to my involvement with the IB program.	N/A	93	N/A	N/A	94	92
• I use different teaching materials (e.g., textbooks, lab equipment, technology) due to my involvement with the IB program.	N/A	87	N/A	N/A	95	80
• Our students benefit from the IB Theory of Knowledge course.	N/A	80	N/A	N/A	82	78
• Our students benefit from participating in the IB Creativity, Action, and Service component.	N/A	90	N/A	N/A	93	88
• Our students benefit from writing the extended essay.	N/A	91	N/A	N/A	87	93
• I spend class time preparing my students to take the IB exam.	N/A	81	N/A	N/A	77	84
• The Pedagogical aspects of our school have improved due to the implementation of the IB program.	94	72	88	100	54	85
2.3. School Change—School culture						
• Teachers at our school are generally in favor of the IB program.	83	56	65	100	18	84
• Having the IB program in the school has improved our school environment.	75	59	65	84	57	59
• Since the implementation of the IB program, the education community has been more unified.	58	44	35	79	31	56
• Non-IB students in our school are generally in favor of the IB program.	(N/A)	(N/A)	40	(N/A)	17	(N/A)
• IB students have positive social relationships with the non-IB students.	(N/A)	(N/A)	73	(N/A)	59	(N/A)
2.4. School Change—Changes in workload						
• With the IB program in the school, the workload of the rector, vice rector, area coordinators, etc. have increased.	86	65	71	100	44	82
• Having the IB program in the school has increased the workload for non-IB teachers.	(N/A)	(N/A)	13	(N/A)	11	(N/A)
• With IB program in the school, the workload of IB teachers has increased.	100	96	100	100	97	96

	Total		Coordinators		Teachers	
	Coord	Tchr	State	Private	State	Private
3. Students						
3.1. Student—Enrollment						
• Many students at our school want to enter the IB program.	N/A	N/A	80	(N/A)	N/A	N/A
• Few students at our school qualify to enter the IB program.	(N/A)	N/A	67	(N/A)	N/A	N/A
• A high percentage of students who started in the IB program dropped out of it later on.	(N/A)	N/A	33	(N/A)	N/A	N/A
3.2. Student—Impact, both academic and non-academic, on students						
• The students at our schools have taken their studies more seriously since the implementation of the IB program.	94	62	94	95	53	69
• In general, students at our school have done well on the IB exams.	60	70	41	78	67	72
• The IB students are well prepared for university studies.	92	87	100	84	94	81

Appendix D. Summary of the findings of the DP coordinator interviews (from Aguirre Montero Ligia and Puente Palacios)

INVESTIGACIÓN SOBRE LA IMPLEMENTACIÓN DEL BACHILLERATO INTERNACIONAL EN ESCUELAS ESTATALES EN EL ECUADOR

INFORME RESUMEN

A. INVESTIGADORES: Dra. Myriam Aguirre de Vergara y Máster Tamara Puente Palacios

INSTITUCIONES: Ministerio de Educación y Colegios estatales con Bachillerato Internacional

B. La metodología para recolección de datos :

- Entrevistas directas a 4 funcionarios del Ministerio de Educación
- Entrevistas telefónicas a 15 Coordinadores de BI de Colegios Estatales

C. Estos datos fueron enviados en cada una de las entrevistas

D. Se enviaron ya en las respuestas de las entrevistas

DESENVOLVIMIENTO Y SOPORTE DEL BI A LOS COLEGIOS ESTATALES

1. Cuál es el rol del Ministerio de Educación en la implementación del BI en colegios estatales más allá del compromiso formal?

En general, El Ministerio de Educación, además de proveer de los recursos económicos, busca la manera de incrementar el número de colegios con BI como una manera de mejorar la calidad de la educación en el Ecuador.

a) Qué clase de apoyo proporciona el Estado?

Ha creado una unidad con un funcionario responsable del programa de Bachillerato Internacional, dentro del Ministerio y en las Administraciones Zonales de las provincias donde hay colegios con BI.

b) Cómo, el Ministerio selecciona cuáles colegios aplicarán para llegar a ser colegios con BI?

Selecciona los colegios en función de varios criterios pre-establecidos, dentro de los cuales está su ubicación geográfica (priorizando el que haya uno por provincia), el tamaño del colegio, su rendimiento y nivel académico, su organización, la experiencia y calidad de directivos, su infraestructura, implementos y recursos de apoyo como biblioteca y laboratorios.

c) Por qué el Ministerio decide apoyar la implementación del BI a través del país? Cuál es su visión de las ventajas del BI?

El Ministerio quiere incrementare el número de colegios c on BI, a nivel del país, y espera que se llega a tener el programa de BI en todos los colegios estatales. Para el años 2013 se espera que lleguen a 123 el número de colegios con este programa. Su visión es que el programa de BI contribuye a mejorar la calidad de la Educación del país, con profesores más capacitados, con una visión nueva del Bachillerato y con alumnos más competentes para desempeñarse en el nivel universitario.

d) Cuáles son los desafíos que enfrenta el estado al apoyar este esfuerzo?

Los retos para el estado son de orden administrativo y económico y deben contar con políticas adecuadas que permitan proveer de recursos necesarios, que apoyen la gestión de selección, funcionamiento, seguimiento y evaluación.

2. **Cuál ha sido el rol del BI en la implementación de una mayor número de Colegios con BI en el Ecuador?**

El rol del BI en la implementación del programa en los colegios ha estado vinculado a capacitación, asesoría y evaluación.

a) Cómo el BI ayuda durante la implementación?

La ayuda durante la implementación es de motivación y capacitación a docentes y directivos, así como de asesoría en cuanto a requerimientos logísticos y de recursos académicos, así como la comunicación permanente por canales virtuales.

b) Qué podría ser de particular ayuda en esta situación y situaciones futuras similares?

Para optimizar la ayuda, la capacitación debe sistematizarse y coordinarse de mejor manera y basarse en un diagnóstico actualizado sobre las necesidades reales de los profesores y de las instituciones.

3. **Cuáles son las contribuciones de los coordinadores en los colegios privados y estatales en cuanto a la implementación del programa BI?**

Debería haber mayor comunicación para poder compartir experiencias, dificultades y soluciones.

Los Coordinadores, dentro de su instituciones tienen una función de enlace, administración del programa, control del mismo, liderazgo en la ejecución del programa pero suelen tener dificultades por los recursos que no llegan a tiempo y la condición socio-económica de los estudiantes. No hay mayor contacto entre los coordinadores de las diferentes instituciones estatales y menos con las privadas.

CAMBIO ESCOLAR

4. Cuál es el impacto de la implementación y adopción del Bachillerato Internacional en la práctica escolar?

a) Cuál es el impacto en el diseño y estructura de la escuela?

- Mejora en los equipos y ambientes,
- Dotación de laboratorios,
- Equipamiento de biblioteca actualizada
- Implementación de acceso virtual.

b) Cuál es el impacto en la pedagogía?

- Mejor capacitación de los docentes
- Profesores han aceptado procesos de cambio de metodología, aprenden lo que desconocen.
- Necesidad de capacitarse no solo en metodología sino en contenidos
- Se realiza mayor planificación
- Se realizan reuniones periódicas de seguimiento y evaluación entre profesores
- Profesores preparados con mejor manejo de contenidos
- Implementación de nueva metodología
- Superación de lo tradicionalista
- Trabajo con metodología nueva
- Uso de estrategias diferentes
- Educación constructivista
- Evaluación rigurosa
- Mayor uso de tecnología
- Se dedica mayor tiempo al trabajo docente y a la preparación

c) Cuál es el impacto en la cultura escolar?

- Mejora en toda la institución y en los procesos con los alumnos
- Mejora el nivel humano
- Mayor dedicación a los estudios
- Se da un desarrollo más integral de los estudiantes
- Estudiantes más solidarios y comunicativos
- Se da discriminación de maestros y estudiantes del programa
- Necesario fomentar sentido de pertenencia y valoración
- Estudiantes más preparados
- Tienen una actitud diferente
- Hay mayor integración
- Estudiantes más desenvueltos
- Profesores más comprometidos

- Estudiantes que se interesan por actividades culturales, participan en diversos eventos
- Estudiantes solidarios en su acción social
- Se da una mayor demanda de matrícula en la institución
- Los profesores son más comprometidos con su trabajo
- Ambiente amigable, se mantiene el compañerismo
- Existe resistencia y falta de apoyo de los profesores que no son del programa
- Hay prejuicio frente al programa porque obliga a leer y trabajar más.
- Trabajo fuerte, no hay descanso
- Existe presión a los estudiantes.
- Educación con calidad y calidez
- Existen menos deserciones
- Se ha ganado prestigio a nivel de toda la institución

5. Cómo ha afectado la implementación del Bachillerato Internacional a profesores, administradores y otros miembros de equipo escolar?

a) Cuáles son los beneficios de la implementación del Bachillerato Internacional desde la perspectiva de cada uno de esos grupos?

Profesores

- Al personal docente le ha ayudado a crecer profesionalmente
- El profesor se vuelve un investigador con mentalidad abierta
- Adquieren hábitos de estudio
- Se da mayor autoformación
- Se capacitan y mejoran en lo metodológico

Estudiantes

- Los estudiantes son expresivos desenvueltos
- Van mejor preparados a la universidad
- Se forman en valores
- Se forman estudiantes con un alto nivel
- Mejoran los conocimientos de los estudiantes
- Tienen un desarrollo integral

A todo el equipo escolar

- La educación que se imparte es de calidad y bien estructurada
- Se maneja un currículum bien definido, se cumplen los planes establecidos.
- Se ha logrado un adelanto en el ámbito académico
- Se ha mejorado la infraestructura y la dotación de recursos por parte del Ministerio de Educación

- Se tecnifica la institución con laboratorios y bibliotecas

b) Cuáles son los desafíos?

- La selección del personal docente
- Motivar e involucrar a los padres de familia y a los mismos estudiantes.
- Involucrar a los directivos
- Aprovechar la oportunidad que se ofrece a un alumno talentoso y de un nivel económico bajo.
- Capacitación permanente del personal docente
- Cambio de actitud hacia el programa y las exigencias que plantea
- Acompañar a los alumnos hasta que obtengan el diploma
- A los alumnos, realizar buenas monografías para lograr obtener su diploma
- Ofrecer estabilidad al personal involucrado: directivos y profesores
- Convencer a los profesores para que participen en el programa
- Romper esquemas y adaptarse a formas de trabajo distintas
- Aprender a cumplir plazos exactos.
- Cambio de mentalidad de profesores, directivos, padres de familia y estudiantes
- Lograr la obtención del diploma para todos los alumnos
- Conocer bien el programa
- Seguir el ritmo del programa, evitar perder clases porque se desfasa todo.

MATRÍCULA Y RENDIMIENTO DE LOS ESTUDIANTES

6. Cuáles son los patrones de matrícula y retención de estudiantes en el Programa?

a) Cuántos estudiantes están participando en el Diplomado?

Un promedio de 27 estudiantes por institución

b) Cuál es el proceso de admisión para estudiantes?

- El Ministerio de Educación da los requisitos
- Récord académico sobresaliente
- Se revisa promedios de los dos últimos años
- Se aplica pruebas de diagnóstico
- Se realiza entrevistas con estudiantes y padres de familia
- Se realiza seguimiento académico
- Existe un perfil establecido
- Deben tener excelente nivel académico
- Estar abierto al cambio
- Dispuestos a trabajar en horario extra
- Tener perfil de indagador e investigador

- Tener apoyo de los padres de familia
- Se eligen las calificaciones más altas de los 10 años
- Se espera que sean líderes y motivados en sus estudios.
- Que tengan buenos promedios de conducta
- Que hayan participado en concursos internos y externos
- Que sean hijos de padres de hogares estables
- Que dispongan de internet y laptop
- Que tengan medios económicos para los proyectos que deben realizar.
- Se aplica el test del Bachillerato Internacional
- Servicio a la comunidad
- Informe del Departamento de Orientación Vocacional
- Se hace una carta compromiso con el estudiante y sus padres.
- La selección se hace con una comisión provincial conformada por el Director y otros miembros más.

c) Por qué los estudiantes eligen inscribirse en el Programa?

Esta pregunta no fue formulada y por tanto no disponemos de información.

d) Cuál es su demografía?

Aproximadamente un 1.8% de la población institucional participa en el BI.
De las 15 instituciones investigadas son 408 los estudiantes que participan en el BI

e) En qué medida los estudiantes DP son representativos de la población estudiantil en general?

En la mayor parte de instituciones entre los criterios de selección que se toman en consideración para elegir los estudiantes que participan en el BI no constan perfiles que tengan que ver con condiciones económicas o familiares específicas, por lo que los estudiantes que participan son una muestra representativa de la media de las instituciones.
Los criterios tomados en cuenta para la selección tienen que ver con rendimiento académico.

f) Cuál es la permanencia de los estudiantes a través del programa?

En la investigación no se consideró esta variable por lo cual no se dispone de esta información.

7. Cuál es el impacto de la implementación y adopción del Bachillerato Internacional en los resultados escolares y no escolares de los estudiantes

a) Cuáles son los resultados sobre medidas de desempeño escolar (cursos, notas año a año, promoción, graduación, matriculación en la universidad?

Si bien en la investigación no se tomó en consideración preguntas que nos proporcionen esta información específica podemos afirmar, que a nivel general, los estudiantes que

cursan el BI tienen un mejor desempeño al momento de rendir sus pruebas de ingreso a las Universidades del país y en casos aislados también a Universidades extranjeras.

Se percibe también, en términos generales, que los estudiantes están mejor preparados tanto en conocimientos como en destrezas y valores, esto es a nivel de formación integral lo cual les permite un mejor pronóstico en su desempeño académico futuro.

Cómo esto se compara con los resultados de los estudiantes antes de que el Bachillerato Internacional fuera introducido en la escuela?

b) Qué tal bien se desempeñan los estudiantes en los exámenes DP? Cómo esto se compara con los estudiantes DP a nivel internacional?

No disponemos de esta información

c) ¿Qué tan bien los estudiantes se desempeñan en la evaluación de la teoría del conocimiento de los cursos, ensayos extendidos y Creatividad, acción y servicio. Cómo ellos se comparan con los estudiantes DP a nivel internacional?

No disponemos de esta información

E. PERSPECTIVAS DE LOS INVESTIGADORES

a) Hubo algo especialmente interesante o sorpresivo en lo que Usted encontró?

- No existe, en general, un conocimiento claro de la función y el apoyo que puede proporcionar la organización BI.
- La relación con el Ministerio es casi exclusivamente económica y las Instituciones no perciben el apoyo del Ministerio de Educación
- Existe cierta rivalidad y discriminación entre profesores y estudiantes del BI y el resto de miembros de la institución
- Tanto estudiantes como profesores se sienten defraudados porque el haber cursado el BI no les da facilidades o consideraciones especiales para el ingreso a las Universidades del país.
- La situación socio económica tanto de profesores como de estudiantes limita el acceso a cursos, Universidades y otras oportunidades de índole académico
- Existe un muy bajo número de diplomas y certificados obtenidos.
- Los profesores si bien están motivados con su trabajo, no se sienten estimulados a nivel económico, aunque su carga de trabajo se ha incrementado significativamente.

b) Cuáles son las implicaciones de esos encuentros para el Bachillerato Internacional y las escuelas estatales con Bachillerato Internacional en el Ecuador?

- Estos problemas pueden generar desmotivación en profesores y estudiantes.
- La inversión del Estado no está dando resultados significativos en calidad y cobertura del BI
- Podría afectarse el verdadero sentido del BI

- Esto obliga a hacer una evaluación exhaustiva a fin de que los datos arrojados proporcionen elementos de juicio para la futura toma de decisiones en cuanto a mantenimiento del BI en instituciones e implementación de nuevas instituciones.
- Implica la necesidad e mayor compromiso de autoridades centrales e institucionales.
- Necesario definir con mayor rigurosidad el proceso de análisis y calificación de centros para el ingreso al programa.

Abril 2013

Appendix E: Summary of the findings of the site visit research (from Tokuhama-Espinosa and Rivera)

Investigación sobre la implementación del BI en colegios fiscales del Ecuador

Para International Baccalaureate Organization®

Tracey Tokuhama-Espinosa, Ph.D.

15 de diciembre de 2012

Investigación sobre la implementación del BI en colegios fiscales del Ecuador

A. Investigador y centro de investigación

La presente investigación fue dirigida por Tracey Tokuhama-Espinosa, PhD, directora del Instituto de Enseñanza y Aprendizaje (IDEA) de la Universidad San Francisco de Quito (USFQ). Como ayudante de investigación se contrató a la Lic. Mariana Rivera Bilbao.

B. Método de recolección de datos (marcar uno)

_**X**_ Visitas *in situ*
____ Entrevistas con MOE
____ Entrevistas a coordinadores DP

C. Resumen de la metodología utilizada para la recolección de datos y codificación de datos (código por pregunta y tema) (incluir lista de entrevistados/grados académicos en un apéndice):

La metodología de investigación utilizada es cualitativa. Su principal herramienta: la entrevista *in situ*. Las entrevistas se aplicaron a través de un protocolo definido para cada integrante de la comunidad educativa y fueron coordinadas con anterioridad. Se entrevistaron a rectores, coordinadores BI, docentes y representantes de los estudiantes. Los participantes de estos dos últimos grupos fueron seleccionados por los coordinadores BI de cada colegio.

Los datos se encuentran codificados por medio de la siguiente tabla:

Codificación por pregunta y tema

Tema		Pregunta	Tipo de respuesta	1	2	3	4
	Ministerio de Educación	Clase de apoyo	**a.** Económico-financiero	●	●	●	●
			b. Capacitación	⬤	⬤	⬤	⬤
			c. Facilitación de trámites	⬤	⬤	⬤	⬤
			d. No recibe apoyo				
		Procedimiento de selección de colegios para ser autorizados	**a.** Trayectoria	⬤	⬤	⬤	⬤
			b. Iniciativa propia	●			
			c. No sabe				
		Razones y ventajas de fomentar la implementación del programa	**a.** Mejoramiento de la calidad educativa	⬤	⬤	⬤	⬤
			b. Reto del colegio	⬤	⬤		
			c. Buscar más prestigio		●		

Desarrollo y apoyo a los colegios fiscales participantes del programa BI		Retos para sostener el programa	**a.** Económico	●	●	●	●
			b. Permanencia de docentes	●	●	●	●
			c. Organización	●	●	●	●
	Organización del BI	Clase de apoyo	**a.** Calificación de colegios para ingreso	●	●	●	●
			b. Capacitación	●	●	●	●
			c. Tutorías y acompañamiento inicial (al momento de la implementación)	●	●	●	●
		Apoyo futuro	**a.** Acceso a capacitación en cada colegio	●	●	●	●
			b. Facilidades para asociar a colegios fiscales	●	●	●	●
			c. Sugerir cambios en políticas del Ministerio de Educación	●	●	●	●
	Mentorías	Apoyo de colegios particulares	**a.** Espacios de intercambio de experiencias			●	●
			b. Colaboración entre docentes de área				•
			c. Ninguno	●	●		
Cambio escolar	Impacto de implementa-ción	Cambio en organización e infraestructura	**a.** Implementación de un curso pre-BI.	●	●	●	●
			b. Cambio en el horario de los estudiantes	●	●	●	●
			c. Obtención del título nacional y/o BI	●	●	●	●
			d. Implementación de consejería y orientación vocacional	•			
			e. Entrega de reportes formato Ministerio de Educación	●	●	●	●
			f. Construcción y/o acondicionamiento de aulas y oficinas exclusivas	•		●	●
			g. Implementación de laboratorios	●	●	●	●
			h. El coordinador-conexión con la OBI planifica, evalúa y reporta al rector	●	●	●	●
		Cambio en pedagogía	**a.** Cambio en la práctica docente	●	●	●	●
			b. Aplicación de innovaciones	●	●	●	●
			c. Participación en capacitaciones	●	●	●	●

			d. Cambio en sistemas de evaluación	●	●	●	●
			e. Asesoría en monografías	●	●	●	●
		Cambio en la cultura escolar	**a.** Resistencia de los maestros a la implementación del programa	●	●	●	●
			b. Resistencia entre los estudiantes participantes y no participantes del BI	●	●	●	●
			c. Integración de todos los estudiantes en los proyectos CAS			●	
	Impacto en docentes, administrati-vos y demás personal del colegio	Beneficios	**a.** Capacitación docente permanente	●	●	●	●
			b. Mejoramiento de aspectos pedagógicos	●	●	●	●
			c. Mejoramiento de infraestructura y laboratorios	●	●	●	●
			d. Mejores oportunidades para los estudiantes	●	●	●	●
			e. Ninguno				
		Retos	**a.** Económicos	●	●	●	●
			b. Mantener el equipo de docentes	●	●	●	●
			c. Aumentar el número de maestros (titulares y homólogos)	●	●	●	●
			d. Mantener el interés de los estudiantes en el programa			●	
			e. Ninguno				
Matrícula y desempeño estudiantil	Patrones de matrícula y retención	Estudiantes dentro del programa	**a.** Cuántos estudiantes en total	120	32	25	32
			b. Cuántos en primero BI	60	25	12	20
			c. Cuántos en segundo BI	60	7	13	12
		Proceso de admisión	**a.** Promedio de rendimiento académico en Básica mayor a 17/20	●	●	●	●
			b. Cursar toda la secundaria en el mismo colegio	●			
			c. Cursar pre-BI	●	●	●	●
			d. Entrevista con comité seleccionador				●
			e. Firma de compromiso	●	●	●	●
		Razones para participar en el BI	**a.** Preparación académica de calidad	●	●	●	●
			b. Posibilidades de becas internacionales	●	●	●	●
			a. Deserción	90%	40 %	50 %	87 %

		Estadística	**b.** Comparación con población general	10%	8%	5%	2%
			c. Diplomas (último año)	12	●	●	●
			d. Diplomas (tres últimos años)	●	3	10	3
			e. No tienen estadística				

D. Resumen de los resultados de las preguntas de investigación (abajo), incluyendo los datos de todos los encuestados (saltarse las preguntas si no tienen datos).

Preguntas de Investigación

Desarrollo y apoyo a los colegios fiscales participantes del programa BI

1. ¿Cuál es el papel del Ministerio de Educación en la implementación del programa BI en los colegios fiscales más allá del compromiso formal?

a. ¿Qué clase de apoyo ha provisto el gobierno?

Los coordinadores reportan que el apoyo del gobierno para la implementación del programa BI fue económico. El aporte del Ministerio de Educación inicialmente fue de $ 60.000 (sesenta mil dólares americanos) y ha ido disminuyendo a lo largo de estos dos años.

b. ¿Cómo el Ministerio de Educación selecciona los colegios que pueden aplicar para ser autorizados como colegios BI?

Rectores y coordinadores de tres de los colegios (colegios 2, 3 y 4) reportan que sus instituciones fueron convocadas a una reunión en la ciudad de Guayaquil por la Dirección Provincial de Educación, la cual ya había escogido a algunos colegios para asistir a la misma. En la reunión se les invitó a participar en el programa BI, y a cumplir con los requisitos de postulación proporcionados por el BI. El colegio 1 participa en el programa por iniciativa propia desde hace varios años.

c. ¿Por qué el Ministerio de Educación decidió fomentar la implementación del BI en los colegios fiscales a lo largo del país? ¿Qué ventajas ve él en el BI?

La respuesta general de la comunidad educativa hace referencia directa a la oferta hecha por el Presidente de la República, y la fundamentan en el mejoramiento de la calidad de la educación a nivel nacional que pretende la política gubernamental.

d. ¿Cuáles son los retos que el Estado enfrenta para sostener el esfuerzo de la implementación del BI en esta escala en particular?

El Estado enfrenta dos retos en la implementación del BI en los colegios fiscales, según las comunidades educativas consultadas: uno de carácter financiero y otro de enrolamiento docente. En el aspecto económico, los cuatro colegios reportan una disminución en la asignación presupuestaria del Ministerio de Educación en los últimos dos años. El reto es mantener la asignación al nivel requerido para la ejecución del programa, con perspectivas de crecimiento. La disminución presupuestaria ha repercutido en: i. la capacitación docente; ii. la limitación de crecimiento para los colegios que pueden aumentar la matrícula más allá del mínimo de 25 estudiantes con los que se iniciaron, y iii. la motivación a los docentes de los colegios para involucrarse en el programa. Rectores y docentes han manifestado que esperan que el presupuesto incluya una retribución económica adicional que compense el aumento de trabajo que representa el ser profesor de BI.

El segundo reto es volver atractiva la participación de los profesores de los colegios en el programa BI. Los cuatro colegios coinciden en reportar que han tenido un alto grado de dificultad en encontrar docentes que quieran formar parte del programa. Los docentes que participan desde la implementación del BI reportan que no han logrado convencer a otros docentes que puedan reemplazarlos como homólogos. La preocupación se explica porque en los colegios 3 y 4, el 60% de docentes se encuentra en edad de jubilación. Al parecer, los docentes no encontrarían atractivo suficiente que no esté ligado a mejoras en sus ingresos. Los cuatro coordinadores están conscientes de la urgencia de conseguir nuevos docentes para el programa. En el caso de los colegios 1 y 2, los coordinadores BI tuvieron que asumir personalmente el reemplazo de docentes para enseñar materias que no eran de su especialidad, hasta encontrar un docente que quisiera participar en el programa. A decir de los coordinadores, la homologación salarial (el Ministerio asignó el mismo salario a todos los docentes) resulta poco motivante para participar en el programa, debido a que el volumen de trabajo que exige ser un profesor de BI es superior al que habitualmente se tiene.

Un factor relacionado es la diferenciación existente entre profesores titulares y de contrato. Los colegios tienen la política de no permitir la participación en procesos de capacitación a docentes de contrato, por encontrarse temporalmente en su cargo; este hecho disminuye el número de maestros que pueden capacitarse y pertenecer al programa.

2. ¿Qué rol ha desempeñado la Organización de BI en la implementación del programa en un número extendido de colegios en Ecuador?

a. ¿Cómo ha ayudado la Organización de BI durante la implementación?

La Organización BI, según el criterio de los coordinadores de los cuatro colegios, ha cooperado en la implementación del programa con una visita de inspección de la que se desprendió una lista de recomendaciones para el cambio en la

infraestructura requerida por el programa. La segunda visita se realizó para verificar los cambios sugeridos y dar la aprobación de participación. Adicionalmente, la Organización BI informó y capacitó a los docentes participantes del programa en: conocimiento del programa, la forma de evaluar, contenidos específicos por materia, coordinación, entre otros.

b. ¿Qué hubiera sido de gran ayuda en esta situación y situaciones similares en el futuro?

La coordinadora del colegio 4 reportó que hubiera sido de gran ayuda socializar el programa antes de decidir qué colegios participarían en él, debido a que los docentes sintieron que se les imponía involucrarse, lo cual generó resistencia en la comunidad educativa, incluidos los mismos docentes.

3. ¿Qué contribuciones se han dado a través de mentorías o asesorías entre colegios privados y fiscales para la implementación del programa de BI?

La coordinación del colegio 2 reporta que la colaboración a través de mentorías solo la ha recibido del colegio 1. Gracias a la iniciativa de los coordinadores de los colegios 3 y 4 se han desarrollado espacios de colaboración entre los docentes de un colegio privado, el Politécnico, y los docentes de BI de sus respectivas instituciones.

Cambio escolar

4. ¿Qué impacto ha tenido la implementación y adopción del programa BI en la práctica escolar?

c. ¿Qué impacto ha tenido en la organización e infraestructura del colegio?

Rectores y coordinadores reconocen que el programa ha tenido impactos en varios aspectos. Los parámetros establecidos por el programa para la infraestructura han obligado a realizar cambios en las oficinas de la coordinación y de los maestros, así como en las aulas y laboratorios. Los estándares organizativos del programa motivaron la adopción de funciones de planificación y evaluación por parte del coordinador, anteriormente cumplidas por el rector; también cambió el horario de estudiantes y maestros. La exigencia académica llevó a la creación de un curso pre-BI. La selección de estudiantes para el BI hizo necesaria la implementación de servicios de consejería y orientación vocacional. Para los padres de familia, los cambios más notorios han sido el mejoramiento de las aulas y la implementación de los laboratorios.

d. ¿Qué impacto ha tenido en la pedagogía del colegio?

La comunidad educativa en conjunto reporta una considerable mejora en la calidad educativa del colegio que incluye: personal docente mejor preparado,

colaboración y guía a los estudiantes en aspectos curriculares y de investigación, profundización de temáticas curriculares.

e. ¿Qué impacto ha tenido en la cultura escolar del colegio?

El programa BI ha tenido un gran impacto en todos los miembros de la comunidad educativa, por ejemplo:

A nivel de relaciones entre rectores y coordinadores: delegar funciones organizativas, de planificación programática y de ejecución presupuestaria, monitoreo y enlace con la organización BI a los coordinadores. La autorización del gasto sigue siendo potestad del rectorado, por lo que la coordinación debe solicitar los pagos para actividades BI al rector. El rector muestra resistencia a autorizar gastos de actividades en cuya planificación no ha participado. Esta situación genera impases y a veces limitan la acción del coordinador.

A nivel de docentes: deben participar en procesos de capacitación continua, así como planificar y preparar sus clases con innovaciones educativas articulando los objetivos del currículo nacional con los del programa. Se ha modificado el tiempo de investigación de cada maestro, quien aprovecha las facilidades que brinda el programa tales como el acceso a innovaciones pedagógicas y material en la página del OBI, al centro de cómputo y, en el caso de los colegios 3 y 4, el apoyo de colegios mentores. Han cambiado la preparación del material de clase, la evaluación a los estudiantes y la manera de interactuar con ellos. Los docentes reportaron un distanciamiento inicial entre aquellos que participan en el programa y los que no, que ha ido disminuyendo a medida que pasan los años y se conocen las bondades del mismo. Los docentes de BI reportaron que existió y existe una gran integración y colaboración entre ellos. Adicionalmente, al enseñar tanto en el BI como en el área nacional, han podido compartir innovaciones pedagógicas y de evaluación con otros maestros que no hacen parte del programa.

A nivel de padres de familia: se han comprometido a apoyar a sus hijos dentro y fuera del colegio. En las cuatro instituciones, los padres de familia firmaron un compromiso al ingreso de sus hijos al programa. Los padres de familia (muchas veces abuelos de los estudiantes) han acompañado y apoyado a sus hijos en las actividades de CAS, en la investigación para la Monografía, en las actividades extracurriculares propuestas por los docentes y muchas veces por sus propios hijos; les han proporcionado (algunos de ellos con grandes esfuerzos) computadores y sistemas de internet, o en su defecto acompañan a sus hijos a los "cibercafé" del barrio para investigar y/o imprimir sus trabajos. Otro factor que los padres de familia de los cuatro colegios participantes de la investigación coincidieron en manifestar es la prioridad que representa para ellos en la distribución del presupuesto familiar la participación en los proyectos de CAS y la presentación de tareas y trabajos de sus hijos. Además coinciden en cómo se

ha modificado la vida familiar en torno a las actividades de los estudiantes tomadas como prioritarias para la planificación de las actividades y el tiempo en familia.

A nivel de los estudiantes: los reportes de la comunidad educativa se enfocan al cambio de hábitos, responsabilidad, compromiso y desempeño de los estudiantes al participar en el programa. Se ha modificado tanto el tiempo de investigación y preparación para las clases como el tiempo invertido en desarrollar trabajos, tareas y el proyecto CAS.
Desde otro punto de vista, la comunidad educativa ha identificado un distanciamiento entre los estudiantes participantes del BI y los no participantes. Los reportes de coordinadores, docentes y padres de familia coinciden en que los estudiantes han reducido su círculo social a los compañeros de BI; el resto de la comunidad los identifica como los "*nerds*" del colegio y hasta el momento no se ha logrado una integración de todos los estudiantes.
Las diferentes iniciativas de proyecto CAS son las que reportan integración y experiencias positivas entre los estudiantes de BI; cada actividad ha servido para invitar a conocer el programa dentro y fuera de los colegios.

5. ¿Cómo ha influido la implementación del programa BI en los maestros, administradores y personal de la escuela?

f. ¿Qué beneficios de la implementación del programa BI encuentran desde la perspectiva de cada uno de estos grupos?

Los docentes coinciden que los beneficios del programa radican en la posibilidad de acceder a procesos continuos de formación y capacitación; en oportunidades de desarrollo profesional e intercambio con otros docentes a nivel nacional e internacional; en un cambio en su práctica y en su relación con los estudiantes; en acceso a material proporcionado por el BI para preparar y dictar sus clases.

Rectores y coordinadores BI coinciden en que el principal beneficio es poder proporcionar a los estudiantes mejor calidad educativa, mejor preparación para la universidad y oportunidades de aprendizaje basadas en investigación y experiencia. Otro beneficio es el aumento del prestigio de los colegios por ser parte del programa.

g. ¿Qué retos hay?

La comunidad educativa coincide en que los retos que enfrentan desde el próximo año lectivo son económicos; por ejemplo, el mantenimiento del presupuesto por parte de las autoridades de gobierno, el poder acceder a los procesos de capacitación pagados con ese presupuesto, mejorar el ingreso de los docentes BI que compense el tiempo invertido en su preparación diaria, poder mantener el pago de matrícula al programa por lo menos para 25 estudiantes,

reacondicionar los laboratorios de física, biología y dar mantenimiento a los laboratorios de computación.

El colegio 3 reporta que el reto más grande para ellos es mantener la motivación en los estudiantes que participan en el programa. El coordinador reporta que un 50% de los estudiantes de todo el colegio contribuye con la manutención de las familias, por lo que la posibilidad de mantenerse en el colegio disminuye al verse obligados a optar por el trabajo.

Los coordinadores de los cuatro colegios coinciden en que otro reto es mantener el personal docente suficiente para el desarrollo normal del programa, reemplazar a los profesores que tiene una jubilación obligatoria el año lectivo 2012-2013, e incorporar profesores homólogos para los años siguientes.

Matrícula y desempeño estudiantil

6. ¿Qué patrones de matrícula y retención tienen los estudiantes de los programas de DP?

h. ¿Cuántos estudiantes participan en el programa de DP?

Código	Primero BI	Segundo BI
1	60	60
2	25	7
3	12	13
4	20	12

i. ¿Cuál es el proceso de admisión para los estudiantes?

Los cuatro colegios cuentan con requisitos similares que se resumen en:

1. Tener un promedio de rendimiento mayor a 17/20.
2. Cursar un pre-BI en el mismo colegio.
3. Pasar una entrevista con el coordinador o comité de selección.
4. Firmar el compromiso entre colegio, representante o padre de familia y estudiante.
5. En los colegios 1 y 4 se requiere cursar toda la secundaria en el mismo colegio.

j. ¿Por qué los estudiantes escogen matricularse en el DP?

Los padres de familia y coordinadores del BI reportan que la principal motivación de los estudiantes para participar en el programa es la de prepararse para estudiar la universidad en el extranjero.

k. ¿Cuáles son las estadísticas del colegio con respecto al BI?

Código	Número de diplomas	Años de implementación
1	12	2011-2012
2	3	3
3	10	3
4	3	3

l. ¿Qué representación tienen los estudiantes de BI en la población total?

Código	Primero BI
1	10%
2	8%
3	5%
4	2%

m. ¿Cuál es la retención de estudiantes a lo largo del desarrollo del programa?

Código	Retención
1	90%
2	40%
3	50%
4	87%

7. ¿Qué impacto ha tenido la implementación y adopción del BI en los resultados académicos y no-académicos?

n. ¿Qué resultados medibles tienen los estudiantes en su desempeño (calificaciones del curso, promoción de año, graduación, matrícula a la universidad)? ¿Cómo se comparan estos resultados de los estudiantes con los que tenían antes de que BI fuera introducido en el colegio?

Los coordinadores de los cuatro colegios coinciden en que no existe un registro oficial y permanente en cada institución para registrar el movimiento de sus estudiantes una vez graduados. Lo que pueden reportar es que la mayoría de estudiantes ingresa a la universidad y obtiene un buen desempeño en los primeros años de educación. El colegio 1 informa que en las pruebas de

SENESCYT del año lectivo 2011-2012, sus 25 estudiantes BI se encuentran en el Grupo de Alto Rendimiento (GAR), con promedio mayor a 800/900.

o. ¿Qué tan bien se desempeñan en los exámenes DP? ¿Cómo se comparan con estudiantes DP a nivel internacional?

Los coordinadores de BI en los cuatro colegios consideran que los resultados obtenidos en los exámenes DP son satisfactorios.

p. ¿Qué tan bien se desempeñan los estudiantes en la evaluación de los cursos de Teoría del Conocimiento, Monografía y CAS (Creatividad, Acción y Servicio)? ¿Cómo se comparan con los estudiantes DP a nivel internacional?

Los coordinadores de BI consideran que los resultados obtenidos en la Monografía son satisfactorios. Los proyectos CAS han permitido desarrollar vínculos con la comunidad y con entidades que reciben apoyo del colegio todos los años a través de sus proyectos. Una de las iniciativas del proyecto CAS dentro del colegio 3 que ha servido para dar a conocer el programa BI dentro del colegio es la tutoría que brindan los estudiantes de BI a sus compañeros de octavo año de Educación Básica; esta iniciativa cuenta con la participación de todos los estudiantes de BI y los cuatro paralelos de octavo año (alrededor de 200 estudiantes) en horas extracurriculares.

Al momento no existe comparación de los programas de CAS nacionales con internacionales. Lo que se ha llevado a cabo es el inter CAS entre las diferentes regiones del país y entre colegios fiscales y particulares.

E. Perspectivas del investigador

a. ¿Existe algo interesante en sus hallazgos?

Se han identificado los siguientes hallazgos:

- El presupuesto ha experimentado una disminución progresiva entre los años 2010-2012. Esto ha incidido en la disminución de oportunidades de capacitación, tanto para los maestros que ya forman parte del programa como para posibles maestros homólogos.

- En el año lectivo 2011-2012 los colegios dejaron de ejercer gestión directa del presupuesto que el gobierno destina para los costos del programa. El trámite que los colegios fiscales deben realizar ante el Ministerio para que se pague a BI el costo de la capacitación los

pone en condiciones de desventaja frente a los colegios privados, los cuales llenan con más rapidez los cupos limitados que el Programa BI ofrece para esas actividades.

- La disminución del presupuesto y el manejo indirecto de los recursos han afectado también el acceso a las herramientas didácticas que el programa ofrece en línea.

- Los cuatro coordinadores de los colegios expresaron su temor de que para el siguiente período escolar 2012-2013 ya no puedan atender a los 25 estudiantes, sino a un número menor.

- La asignación presupuestaria ha sufrido demoras por falta de acuerdos previos entre el programa BI y el Ministerio de Educación sobre requerimientos de la planificación. Por ejemplo, tres de los cuatro colegios manifestaron que la planificación del año por horas-clase que presentaron al Ministerio de Educación no fue aceptada porque se realizó sobre la base de 20 horas semanales de clase (requerimiento del BI) y no sobre el número de horas-clase exigidas por el Ministerio a los docentes, que es de 40 horas.

- Se evidencia una desvinculación entre los colegios fiscales participantes del programa que les permita el intercambio de experiencias y la ayuda a diferentes niveles (coordinadores, docentes de las mismas áreas). La Organización BI podría contribuir a desarrollar dicha vinculación. Los colegios sugieren que la vinculación sea dada por la Organización BI. Al momento existe una asociación de colegios BI dirigida por representantes de instituciones particulares que no permite la participación con voz y voto de los colegios fiscales, si es que no tienen al día ciertos pagos requeridos por la Organización (los pagos dependen de los movimientos monetarios producidos directamente desde el Ministerio de Educación). Esta asociación no ha generado espacios de intercambio y ayuda formal entre los colegios fiscales, los cuales tienen realidades muy distintas a los particulares.

- El esfuerzo económico que realizan padres de familia o representantes de los estudiantes participantes en el BI es notorio. Los padres de familia reportaron en las entrevistas un poco de su

realidad económica para evidenciar su compromiso con sus hijos y el programa. La mayoría tiene ingresos económicos bajos y ha realizado grandes esfuerzos para comprar una computadora. Reconocen como carga económica difícil de atender el traslado y alimentación de sus hijos a los proyectos CAS, pero aún así realizan esfuerzos especiales para cubrir los gastos porque valoran la influencia que estos proyectos han tenido sobre los valores y responsabilidad de sus hijos.

- Las diferentes entrevistas evidencian el distanciamiento entre docentes participantes del BI y no participantes, y entre estudiantes participantes del BI y no participantes. Este distanciamiento no ha logrado superarse al 100%, y puede ser un factor para que tanto los maestros como los estudiantes crean que no es posible ingresar al programa sin pasar por esta separación.

- La entrevista con los rectores de los cuatro colegios da cuenta de que delegar funciones organizativas, de planificación programática y de ejecución presupuestaria a los coordinadores ha distanciado al rector de la participación inclusiva del mismo en las decisiones del programa. Los rectores muestran cierta resistencia a la autorización del gasto, acción que genera impases y a veces limitan la acción del coordinador.

- La investigación evidenció la diferencia existente entre la calidad de la educación nacional y la proporcionada por el programa. Los colegios se han visto obligados a crear un pre-BI que permita igualar a los estudiantes en contenidos académicos, y que los acostumbre a un sistema de calificación diferente al utilizado en los colegios fiscales.

b. ¿Cuáles son las implicaciones de estos hallazgos para la Organización BI y para los colegios fiscales en Ecuador?

   Las implicaciones de los hallazgos antes mencionados para la Organización BI son las siguientes:

   1. Si la tendencia en la disminución del presupuesto asignado al programa BI continúa, los colegios tendrán muchas dificultades para sostener el deseo expresado de mantener el programa por los valores que encuentran en él.

2. El programa deberá replantear algunas políticas relacionadas con el acceso a capacitaciones y herramientas didácticas que ofrecen en línea, con criterios de discriminación positiva a estos grupos de colegios, dadas sus especiales características.

3. Se requiere que los colegios tomen en cuenta la duración de los procesos administrativos en el Ministerio de Educación para trazar un cronograma de solicitud de recursos que permita evitar demoras en la disposición de fondos.

4. Es necesario que el programa revise el convenio de BI con el Ministerio de Educación para que se establezcan con mayor claridad las competencias de cada uno de los actores; particular atención merece la clarificación de competencias sobre la supervisión y el acompañamiento para el desarrollo de los procesos.

5. Una búsqueda de espacios promovida por la Organización BI, a fin de permitir el encuentro y asociación de los colegios fiscales para el intercambio y apoyo entre ellos.

6. La aplicación de un proceso de integración de todo el colegio (es decir, de los que participarán en el programa y los que no) desde la Organización BI al implementar el programa, a fin de que no exista un ambiente de distanciamiento en la comunidad educativa.

7. La convocatoria de los coordinadores BI a la comunidad educativa en su conjunto para generar espacios internos de coordinación, planificación y ejecución del programa. Estos espacios pueden contar con la participación del rector, docentes BI y nacionales, y todos aquellos actores de la comunidad educativa que tengan injerencia en las acciones de BI.

8. La necesidad de que el Ministerio de Educación planifique beneficios especiales para los estudiantes que participan en el BI al ingresar a la universidad, que compensen el esfuerzo de los estudiantes y los sacrificios del círculo familiar.