

Factors Influencing the Implementation of an International Baccalaureate Diploma Program in a Diverse Urban High School

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In thousands of high schools across the nation, a wide variety of reform models have been introduced to address high dropout rates and students' poor academic performance (Datnow & Castellano, 2001; Rowan & Correnti, 2009). The federal Comprehensive School Reform Demonstration (CSRD) has allocated more than \$300 million to encourage low-performing schools to adopt these reform models. Some, like Accelerated Schools, focus on school culture and governance issues. Others, like Core Knowledge, focus on the adoption of curricula in multiple subject areas. Finally, models like Success for All prescribe changes in governance, math and reading curriculum, and student grouping and instructional practices (Rowan & Correnti, 2009). In recent years, the International Baccalaureate Diploma Program (IB) and the College Board's Advanced Placement (AP)

This article identifies factors that promoted the successful implementation of an International Baccalaureate Diploma Program in an urban high school. The study draws on data from an in-depth case study at a large high school serving an urban community in a Western state. The study investigates seven implementation mechanisms that research suggests encourage local-level stakeholders to eschew existing practices and adopt practices supported by the model. Data suggest six of the seven research-based best practices were present in the IB program. These were staff selection, preservice training, coaching, staff evaluation, program evaluation, and administrative supports. These practices were instrumental in moderating contextual factors that might have hindered model implementation. It is possible for high-quality academic programs to operate in low-performing schools and for a wide range of students to benefit from this type of program.

Summary

programs have also garnered national recognition as schoolwide reform programs.

Related Literature and Theoretical Framework

Since the passage of the No Child Left Behind Act (NCLB) in 2001, schools at both the primary and secondary levels have turned to a variety of school reform models in an effort to raise the academic achievement of their students. As a result of the widespread need for successful reforms, national policy makers and local administrators look for reform programs that can be applied in multiple contexts and deliver measureable outcomes for stakeholders with a diversity of goals (Borman, Hewes, Overman, & Brown, 2005; O'Donnell, 2008).

Measurable Outcomes

A key assumption of reform implementation work has been that the “implementation of key design components will change school and classroom learning environments and thereby influence students’ outcomes” (Berends, Bodilly, & Kirby, 2002, p. 171). In other words, the level of program implementation should affect expected student academic outcomes. Empirical evidence has supported this assumption by demonstrating both successful reforms and unsuccessful attempts where the level of implementation fidelity correlated with the outcome (Berends et al., 2002; Berman & McLaughlin, 1976).

Local implementation or scaling-up, however, has remained a challenge: Both highly prescriptive reform models, like Success for All, and models relying on indigenous development, like Accelerated Schools, have been equally prone to variations in implementation fidelity and as such, have suffered from immense inconsistency in program outcomes (Desimone, 2002; Fullan, 2001; Rowan & Miller, 2007). Summarizing 10 years of research

on the New American Schools reform initiative, Berends et al. (2002) observed,

Research on using external change agents as a way of achieving reform in K–12 schools has shown that as these externally developed interventions are implemented they go through significant changes over time as they adapt to local conditions and contexts or engage in scale-up . . . implementation tends to vary across sites and the outcomes vary considerably. (p. 170)

Successful Implementation

Berends et al. (2002) defined implementation “as the process of putting into practice the elements, sets of activities defined by design teams as core components of their design” (p. 171). A recent study by Vernez, Karam, Mariano, and DeMartini (2006) found that none of the 250 schools in their study had fully implemented all of the core elements of the reform model that the school was attempting to implement. Even though a great deal of research expertise and money have been allocated to the study of school reform, an important question has remained unanswered: Do all reform models have equal *potential* for high-fidelity implementation?

An extensive review of implementation literature performed by Fixsen, Naoom, Blasé, Friedman, and Wallace (2005) attempted to answer this question by identifying core implementation components shared by successful models. These factors were, in a sense, the “implementation drivers”—the mechanisms that encouraged local-level stakeholders to eschew existing practices and adopt practices supported by the model. These core components were staff selection, preservice training, consulting or coaching, staff evaluation, program evaluation, facilitative administrative supports, and systems interventions (see Table 1).

However, the review conducted by Fixsen et al. (2005) did not provide sufficient attention to school context: rural, urban, or suburban. Given that urban schools are among the lowest per-

Table 1*Core Implementation and Organizational Components*

Components	Implementation Model	
	Best Practice	Jefferson High School IB Program
Staff selection	The model should have criteria for selecting staff that have the capacity to deliver services. Program developers and local sites choose staff based on criteria.	IB does not have stated criteria. Teachers are selected from within the school. Coordinator makes requests but principal has the final say in teaching assignment. Teacher capacity is linked to student assessments.
Preservice training	Model developer provides initial training. Training may take place through a variety of mechanisms. Effectiveness of training is determined by evidence of changes in practitioner behaviors/practices aligned with model goals.	Teachers are sent to training sessions prior to teaching courses. Training sessions are held off-site, are subject-specific, and are conducted by IB teachers. Teachers reported specific changes in practice to align practices with IB goals. Attributed these changes to the IB training.
Consulting or coaching	Model developer provides ongoing training through coaching. Effective coaching provides feedback, supervision, and support to staff as they develop new practices.	The IBO recognizes a teacher from within the school as Program Coordinator. This person is responsible for the daily operation of the IB program and is responsible for overseeing staff development. Teachers also receive teaching support by accessing a website/online community hosted by the IBO.
Staff evaluation	Model includes multiple measures that assess context, compliance, and competence.	School submitted an application to the IBO prior to beginning their program. This document must attest to the goodness of fit between the local context and the program. Program coordinator completes a self-evaluation document every 5 years. In this document the coordinator provides evidence that key aspects of the program are in place. IBO staff review this document. Student scores on end-of-the-year exams are used to determine a teacher's competence. Once a year teachers submit lesson plans and graded student work to the IBO. IB teachers from schools other than their own review the student portfolios. These outside reviewers provide written feedback to individual teachers. If a teacher's work is not in compliance with IB standards, IBO specialists conduct a more extensive review.

Components	Implementation Model Best Practice	Jefferson High School IB Program
Staff and program evaluation	Model has in place a system that measures effectiveness of the model according to a set of articulated outcomes. Data from this system are made available to staff and used to inform program improvement.	Juniors and seniors take subject-specific summative exams scored by IB teachers outside of the school. Students can earn an "IB Diploma" by passing these exams and completing additional program requirements. Coordinator used exam pass rates and diplomas earned as a staff performance measure.
Facilitative administrative supports	Local administrators understand and support the five components. They effectively manage organizational-level influence factors (such as budgets, policies, and procedures) in an attempt to ensure practitioners have the resources to implement the program.	School principal used discretionary funds to pay for program fees, allocated teaching and counseling staff to the program, and manipulated the master schedule to accommodate program requirements.
Systems interventions	External factors that may impact core and organizational-level factors include the alignment of the model with other policies, political support for the model, and economic conditions.	The national prestige of the program was a significant positive influence. Lack of alignment between district and school goals was a challenge to program implementation.

Note. Adapted from *Implementation Research: A Synthesis of the Literature*, by D. Fixsen, S. Naom, K. Blasé, R. Friedman, and F. Wallace, 2005, Tampa, FL: University of South Florida, Louis de la Parte Florida Mental health Institute, The National Implementation Research Network (FMHI Publication #231).

forming schools according to traditional student outcome measures, they have been the target of most school reform efforts (Gross, Booker, & Goldhaber, 2009; Quint, 2006). Thus, two empirical questions remain: How do the implementation drivers look in a large urban high school? And do they in fact drive implementation toward fidelity in an urban context?

This topic has been of particular importance to school leaders in the current high-stakes accountability policy environment. Further, the schools that have been asked to change have been the ones that were most likely to be in hindering external environments and have weak organizational components (Rowan &

Miller, 2007). Principals facing these conditions have found it important to choose a program that has strong core components if they hope to see desired outcomes. Having the tools to identify the program most likely to effect change has been very important in this high stakes policy environment (Glazer, 2009). Identifying what implementation drivers look like in an urban school context would provide leaders with a set of tools that could help them identify the “right” program for their context.

Method

The data presented in this paper are part of a larger study of the implementation of the International Baccalaureate (IB) Diploma Program in an urban high school (Mayer, 2006). Yin (1994) suggested the most appropriate methodology for explaining program implementation is case study. Thus, data for the larger study were collected using an in-depth case study approach. Using methods suggested by Mills and Ragan (2000), data collected over the course of an academic year included a systematic survey of the International Baccalaureate Organization (IBO), the agency responsible for design of the IB Diploma Program, and a survey of the Diploma Program itself. The data from this investigation led to the identification of the core components of the Diploma Program. These components served as the basis for the data collection protocol that was followed throughout this process. Data consisted of a total of 39 structured interviews with IBO program affiliates and high school staff (see Table 2) and 24 days of observation during the course of this project. The interview protocol included questions about aspects of program organization and organizational capacity, barriers and resources, and program outcomes for students, staff, and the local community (Weiss, 1998).

Interviews were supplemented with observations of the daily activities of coordinators, teachers, principals, and guidance counselors. This allowed researchers to gain a more accurate understanding of the structure and culture of the school as well as to

Table 2*List of Key Stakeholders Interviewed*

Title of Interviewee	Number Interviewed
IB Coordinator Jefferson	2
IBO Administrator	1
Regional IBO President	1
Portville School District Magnet Program Coordinator	2
IBO Executive Board Member	1
Portville School Board Member	1
Jefferson High Vice Principal	1
Jefferson High Principal	1
Jefferson High IB Academic Counselor	1
Jefferson High IB Teacher	23
Jefferson High IB Parents	4

triangulate interview data. Student essays from 94 of the 102 sophomores at the urban school in 2004 were an additional source of data. Detailed field notes based on observations were compiled in an electronic database and interviews were transcribed by researchers. For this study, data were systematically coded using HyperResearch (Miles & Huberman, 1994) using core implementation components developed by Fixsen et al. (2005). Yin's (1994) pattern-matching approach identified areas where evidence converged or diverged from the core implementation components.

The presentation of findings begins with a description of the IB program and the external, as well as school-level, organizational context of Jefferson High School. Next, the paper provides an analysis of how each of the drivers did or did not manifest itself in this context and how stakeholders made meaning of their experiences.

The International Baccalaureate Diploma Program

Across the country, there are 42 Title I designated high schools offering the IB Diploma programming, serving approximately 74,000 socioeconomically disadvantaged students. Although not

every student at a school participates in the IB program, these schools have implemented the IB Diploma Program to address achievement gaps at their school. The 2-year comprehensive college prep program grew significantly in the U.S. in the 1980s shortly after the publication of *A Nation at Risk* (National Commission on Excellence in Education, 1983). In Europe, the IB program has been a staple in international education since the 1970s. The IB program in Europe has a strong reputation for offering a standardized and rigorous honors-level college prep curriculum that catered to the children of diplomats who tended to transfer from school to school during their high school careers. The Diploma Program is composed of six subject areas and a core of three additional activities: a community service project, an individual research project, and a capstone course entitled the Theory of Knowledge. Students generally enroll in courses from each of the six subject areas in their junior and senior years. In the U.S., many high schools offer IB preparatory classes to students in the 9th and 10th grades as a way of vertically aligning the curriculum offered to students during high school. Thus, unlike many juniors and seniors who may take two or three AP courses a year, IB students enroll in honors-level IB prep courses in the 9th and 10th grades and enroll in a full schedule of honors-level courses in the 11th and 12th grades. Research suggests that this type of extended exposure to rigorous academic coursework is one of the best ways to prepare students for college coursework (Adelman, 2004). To earn an IB Diploma, students must pass terminal examinations in all six subjects and complete the three additional core activities. The overarching goal of the curriculum is for students to gain both in-depth knowledge of each subject area and for students to think critically about how all six areas of knowledge fit together. More than 100 universities across the nation offer a full year of college credit to students who earn the IB Diploma.

Jefferson High School

A school board member who met with researchers at a community center not far from the school greeted me with a smile

and said, “Welcome to the ghetto.” Jefferson High has been an archetype of the urban comprehensive high school in California and perhaps the nation. Jefferson High resided in a run-down residential neighborhood a few miles from the downtown area of the moderately sized industrial city of Portville. Portville’s residents were 53% White, 37% Latino, 23% Asian, and 11% African American. Only 68.2% of the population age 25 years and over had a high school diploma, 15.4% had a bachelor’s degree, and 4.9% had graduate degrees (U.S. Census, 2000).

Property values in the neighborhood have been low for several decades; there have been few if any organized efforts toward rejuvenating the community. Jefferson High’s students came from residential areas west of the school and rural areas a short distance east of the school. Jefferson High School has been designated as a Title 1 school by the Department of Education. Title 1 schools receive special funds from the federal government to provide remedial or compensatory education programs for low-income students. Jefferson High served a student population that has all of the academic achievement risk factors identified by recent research (Barton, 2003). In 2004, Jefferson High had 136 teachers on staff; of these, 30 teachers were trained to teach IB and almost all of these teachers taught both IB and non-IB courses. The student population, 3,176 in 2004, was comprised of Latino (60%), Asian (13%), African American (12%), White (10%), and American Indian or Alaskan Native (5%) students. According to the California Department of Education (CDE) Academic Performance Index (API) report for 2005, 64% of Jefferson High’s students were classified as economically disadvantaged. In 2005, close to 20% of Jefferson High’s senior class did not graduate (California Department of Education, 2005). Jefferson High received 573 of a possible 1000 points on the accountability index in 2005, which put it in the lowest 10% of schools in California. The school has been designated a “high-priority school” under California’s school accountability system. The Portville school district received additional funding from 2001–2004 to help the high-priority schools in the district increase students’ academic

performance. At Jefferson High, the principal gave these funds to the IB program coordinators.

External Context for the IB Program at Jefferson High

The Portville school district received federal money for the purposes of desegregating its schools from 1977–2003 (Rossell, 1994). Some of these funds went toward magnet schools, a mechanism the federal government thought would be effective for drawing White students back to urban schools.

The International Baccalaureate Diploma Program at Jefferson High School was established in 1993 as a magnet Program for Portville Unified School District in California. Following desegregation of the school system in 1970s, many of the affluent families in Portville moved to neighborhoods in the northern part of the city. The remaining population of Portville Unified School District consisted of a diverse group of families from low socioeconomic backgrounds. In establishing the IB Diploma Program in 1993, the school administrators hoped to draw students from the more affluent neighborhoods of surrounding districts back to Jefferson High School. (Thiele & Thiele, 2004, p. 11)

From 1993 until 2003, Jefferson High School's IB Diploma Program was part of the district's desegregation plan and received federal money. This funding stream was eliminated when the district, stung by its own success with desegregation, was declared unitary by the state supreme court in 2004. The magnet programs initiated by the district to facilitate desegregation were also rendered obsolete by this ruling. As a result, the IB Diploma Program's status within the district changed from that of a federally funded mandate to an unfunded responsibility for the district (interview, Portville School District Administrator, November 23, 2005).

Jefferson High School's principal appointed two teachers to serve as IB coordinators; these teachers believed that the IB pro-

gram could help Jefferson High reinvent its academic reputation by providing a rigorous academic program primarily to serve the racial and ethnic minority students living in the neighborhoods closest to Jefferson High. The coordinators did not share the district's goal to attract White students from outside the community. During an open admissions process, coordinators recruited students from every middle school in the district (observation, February 17, 2005). In 2003, the open admission process attracted eighth-grade students ($n = 172$) with a wide range of GPAs. Fifty-nine percent of the incoming eighth-grade students had GPAs of 3.0 or higher, 35% had GPAs between 2.0–3.0, and the remainder had GPAs below 2.0. Only half of these students had completed algebra in eighth grade. Approximately 42% of these students began their education in the U.S. as English language learners, and 50% of these students received federal free and reduced lunch. A previous study of the IB Diploma Program at Jefferson High found this diverse group of students completed the program and matriculated to 4-year universities directly after graduation (Mayer, 2006).

Implementation Drivers

Staff Selection

Fixsen et al. (2005) suggested that administrators of successful programs should select staffs that are able to deliver the services required by the model. According to Fixsen et al., staff selection should also be guided by a set of criteria determined by model developers. Empirical data suggested that the IBO has not identified a set of criteria for teachers of IB classes. Local program coordinators and principals have their own criteria for what they think makes a teacher qualified to teach IB classes. Further, they must recruit teachers from within the school to teach IB classes.

When asked about the IBO's criteria for IB teachers and how he ensures teacher quality at the local level, an IB administrator said that from his perspective, it would simply not make sense for a school to adopt a rigorous program like IB and then put an

unqualified teacher to work in it. He went on to say that a school usually finds out pretty quickly if a teacher is not qualified when the school gets back its exam scores. A good coordinator will find a way to get another teacher in that classroom when the coordinator sees an IB teacher's students are doing poorly on exams. In his own words, "it isn't always pretty, but it falls to the schools to do that [replace teachers]" (interview, January 25, 2005).

Ideally, at Jefferson High, the principal and the coordinator worked together to identify teachers who will teach IB classes. However, preexisting school structures limited the coordinators' influence on the process. At Jefferson High, the department chairs allowed teachers to choose the classes they taught based on seniority. The coordinator explained that this system meant there were a couple of teachers who, when they first started teaching IB classes, said, "OK, I can offer the kids this [rigorous curriculum] but I am not sure they can get it." The researcher's conversation with a veteran IB English teacher confirmed the coordinator's comments. This English teacher told researchers he was one of teachers who thought Jefferson High students would not be able to complete the rigorous IB curriculum.

Today, these teachers are more positive about their students. If that same teacher has 20 out of 30 students fail an exam, he first asks himself, "What could I have done differently?" According to the coordinator, this is not what that teacher's response to his students' failure would have been 5–10 years ago. In the past, this teacher would have blamed the students for the failure. Now, the coordinators see IB teachers looking for ways to help their students succeed. When the coordinator was asked about the criteria he uses to make decisions about who teaches IB classes, he said he tries to recruit teachers, "with a heart for students" (interview, April 5, 2005). He went on to say this also means teachers are willing to look at the "up" side of kids.

Preservice Training

The regional International Baccalaureate North America Office (IBO) in New York and 21 subregional offices like the

Table 3*Descriptive Data on IB Teachers at Jefferson High School in 2006*

	<i>N</i> = 23
Average number of years teaching	13.5
Average number of years teaching IB at Jefferson High	5.5
Percent with MA	52
Percent with Ph.D.	13
Percent with IB Professional Development	100
Percent attending additional professional development	82
Percent who teach non-IB classes and IB classes	82

California International Baccalaureate Organization (CIBO) offer 5-day, content-specific formal training workshops for pre-service and in-service IB teachers across the U.S. IBO also offers content-specific professional development (PD) courses through several 4-year universities. The content and structure of the workshops is a highly centralized process and fidelity is a major area of concern. IBO maintains this fidelity by employing current or retired IB teachers as workshop facilitators. In many cases, these teacher/facilitators have also been participants in the international curriculum development process. The initial and reauthorization paperwork ask coordinators to list professional development opportunities the school makes available to teachers above and beyond the required IBO sponsored training sessions. Data in Table 3 suggest that Jefferson High is meeting IBO professional development standards.

These PD institutes are very effective at communicating the IB message to teachers. Researchers conducted open-ended interviews where teachers were asked to comment on how teaching IB courses has influenced how they teach. In general, comments fell into only three areas: increased expectations for students related to the academic rigor of their subject, a more holistic view of curriculum, and more attention paid to preparing students for end-of-the-year exams. The similarity of teachers' answers, given the open-ended nature of the interview questions used, was surpris-

ing. These similarities of the teachers' responses are attributable to the clarity and consistency of the professional development.

According to teachers, IBO's professional development requirements were effective because they are conducted exclusively by current and retired IB teachers and assured a high level of quality and subject area relevancy. These courses were also important because the instructors clearly articulated IB's expectations for students' academic work. An IB biology teacher with 13 years of teaching experience reflected on his professional development experience:

I was impressed at the level of work demanded by IBO. It is not so much the detail but the breadth of information that kids are expected to know. I was also impressed at the level of inquiry IBO demands. They expect kids to have a good understanding of how to do research. So I focus on the students' understanding of process rather than on memorizing facts. (interview, Jefferson High, April 5, 2005)

An IB math teacher at Jefferson High with 7 years of teaching experience said:

It gave me an understanding of the kind of rigor that is expected in the program. I used to wonder, I am teaching honors, ok what does that mean? Does that mean, I assign 10 problems for homework instead of 5? What is harder? Now I understand what type of things I should be challenging my students with. (interview, Jefferson High, March 15, 2005)

The IB program's reputation for rigor also seemed to keep unqualified and unmotivated teachers out of the program. Teachers who had less than 5 years experience reported that they were intimidated by the level of the curriculum and did not feel capable of teaching IB classes. During interviews, IB teachers regularly made connections between their subject matter

knowledge, their capacity to teach the IB curriculum, and their students' academic success. Three teachers reported that teaching the IB curriculum led to an increased interest in obtaining an advanced degree in their subject area so that they could do a better job teaching their IB classes. The 10th-grade biology teacher at Jefferson High said:

IB keeps me here and keeps me motivated. It makes me a better teacher because the IB curriculum demands that I keep growing in my content knowledge and pedagogy in order to prepare my students for what will be expected of them in the junior and senior years. (interview, Jefferson High, March 5, 2005)

In the absence of a criteria-based staff selection process, pre-training can play an especially important role. In this context, the model developer relies on pretraining to communicate the organization's mission and build the necessary teacher capacity.

Coaching and Consulting

Fixsen et al. (2005) proposed that coaching and consulting were the most effective vehicles a model developer can use to provide ongoing support, modeling, and feedback for the new behaviors and practices introduced by the model. Much of the research in this area suggested peer coaches are most effective at prompting changes in teachers' classroom practices (Joyce & Showers, 2002). The IBO relies on active and retired teachers to provide many of the organization's services. Teachers serve as program coordinators and mentors to schools applying for IB authorization, conduct national professional development, run regional IB organizations, serve as evaluators for student and teacher assessments, and serve on curriculum development committees. Data suggested the organization utilizes teachers partly due to philosophical beliefs and partly due to necessity. The IBO's creation of the 21 state-level IB organizations was IBO's way of recognizing that there were IB teachers who could men-

tor new coordinators and help schools implement new Diploma Programs as effectively as administrators at the national level. By appointing “peer” leaders to coordinate local IB programs, IB coordinators are positioned to lead using very subtle means of influencing organizational culture and must depend upon the principal to give them the power to influence the allocation of resources. Additionally, as a nonprofit organization, IBO simply cannot afford to hire full-time professional staff to provide all of the services to member schools.

Program and Staff Evaluation

Implementing accountability policies that originate from outside an organization can be a complex process (Louis, Febey, & Schroeder, 2005). To address this challenge, the IBO has instituted core procedures during the model adoption process that act as powerful “levers” that give IBO an advantage in maintaining its influence. These levers exist primarily in the form of program and staff evaluation exercises. They continue throughout implementation stages and contribute to sustaining program fidelity. There is very little latitude in program development at the local level. At the national level, this sentiment was expressed: “There is only one IB program . . . fidelity is a nonnegotiable” (IBO Administrator interview, January 21, 2005).

Before a school is authorized to offer the IB Diploma, it must appoint a teacher to serve as a program coordinator who coordinates the completion of a lengthy application. The application is designed to ensure applicants have the support needed from the major stakeholders to effectively implement the IB Diploma Program, and the financial resources to sustain it. IB identified key stakeholders as parents, teachers, and students, as well as school and district-level administrators. IBO staff at the North American central office review paper applications and make at least two site visits before authorizations are offered. During the school site visit, the authorization team meets with all of the stakeholders to make sure that everyone is genuinely committed to the program and observes IB courses. According to an

IBO administrator, they attempt to weed out schools that do not appear to have allocated the necessary resources to the IB program and often defer applications based on site visits (interview, March 28, 2005). In addition, IBO requires program coordinators to complete a 5-Year Review Document that includes data on the number and types of professional development teachers have completed, a budget, and evidence of central office, parent, and administrative support. IBO administrators assess this data together with students' exam scores. If the data from a 5-Year Review indicate that a school is not performing according to IBO standards, IBO staff initiate a site visit to learn more about the local context or revoke the school's authorization (interview, June 29, 2005). A University of California Vice Provost and member of the IBO Board of Directors confirmed the fact that IBO takes the authorization process very seriously. She said when a school submits an application, IBO staff look at several key factors:

One important issue for IBO is resources. IBO is interested in knowing if the teachers have bought into the program, if they hold high standards for students, and if administrators are supportive. There needs to be total buy-in for the program to be successful. IBO staff does an excellent job of making sure schools are given concrete information about program implementation when they apply to IB for authorization. When there are doubts at IBO, I have seen applications postponed or denied. (interview, April, 18, 2005)

Teachers are expected to follow IBO established curricula for each of the six subject areas when teaching their IB courses. IB students complete formative and summative assessments based on the curricular standards. Both teacher-developed (internal) and IBO-developed (external) student assessments are moderated anonymously by teachers appointed by the IBO offices. Grade inflation is kept at a minimum through extensive moderation procedures. Each spring teachers submit samples of internal summative assessments with letter grades to an external peer modera-

tor for review. If a grade given by the local teacher is more than one grade above or below the grade given by the moderator, IBO requires the teacher to submit all student work from the internal assessment to moderators for additional moderation. Drawing upon the expertise and perspectives of an international network of teachers, IBO examiners are routinely located in other countries. Unexpectedly, interviews revealed teachers saw moderation as an important source of feedback on the quality of their assessments. Both novice and experienced teachers recounted memorable experiences “being moderated.” Teachers said that moderation experiences changed the way they taught aspects of their classes and designed student assignments. A calculus teacher with 7 years of experience said, “I always look at how I am teaching and grading students and ask myself what would someone else think of my grading” (interview, March 15, 2005). Overall, interview data suggest teachers were willing to accept feedback and make changes because IB moderators were fellow teachers and because teachers felt they would be held accountable for making changes by way of student exams.

At the end of each academic year, students write formal examinations in each subject area. These examinations are criterion-referenced and most exams consist of a single essay or several short essay questions. All IB exams are given on the same day within the same time frame across the world. The only legitimate reason a student may give for not attending a testing session as assigned is civil unrest or natural disaster—illness is not a reason to miss a test. Student exams are then sent around the world for marking by specially trained IB teachers. Like AP exams, students receive college credits at universities across the nation for doing well on IB exams. Individual students, teachers, and program coordinators all receive copies of students’ exam scores. A Jefferson High coordinator said, “We are *all* being graded by the way our students perform on exams” (interview, January 14, 2005). Exam scores are used by the IBO office to judge the health of each IB Diploma Program. Program coordinators and teachers use the exam scores to determine the effectiveness of their pedagogy. At an IB staff meeting researchers observed in the fall,

the coordinator distributed packets with all of the student exam results to the staff. At this meeting, teachers and coordinators engaged in a productive conversation of student scores compared to national and international student means. Teachers themselves reported that their students' exam scores were an important way of validating their teaching techniques. A Spanish teacher at Jefferson High said, "I feel responsible for students not passing the exams" (interview, February, 17, 2005). Thus, teachers saw students' scores on exams as the most significant marker of their performance.

Facilitative Administrative Supports

IBO recognizes program coordinators as the primary program administrators. At Jefferson High, school administrators recognized program coordinators as leaders of the IB program even though this model was anomalous to existing organizational structures. Principals provided only an advisory role in the programs' daily operations. As Jefferson High's coordinators describe, "the Jefferson principal gave full reign to the IB coordinators to run the program as they deemed appropriate" (Diploma Program Evaluation, March 2005). IB coordinators were primarily responsible for creating and maintaining programs. High turnover of principals was endemic in California's high-stakes accountability environment (Roza, Celio, Harvey, & Wishon, 2003). During the time this study was conducted, Jefferson High had a principal who had been at the school for less than one year, whereas the program coordinators had been at the school for the entire life of the program. Coordinators reported trying to maintain good relationships with their principals because principal support in terms of teaching assignments and discretionary budget was still important to the IB program (interview, April 5, 2005). Coordinators also relied on goodwill from the vice principal for curriculum and instruction, who was in charge of creating the master schedule for the school. His cooperation was needed to balance IB teaching assignments and IB student scheduling needs with the rest of the school schedule.

The IBO prescribed leadership structure of appointing program coordinators who are members of the teaching staff means that IB coordinators must lead by example and simply do not have the power to directly change teachers' practices through performance evaluations or policy mandates the way a principal might. Although the IB coordinators expressed frustration regarding their lack of power, Desimone (2002) found that this more subtle peer-to-peer style of leadership was more effective for sustaining program implementation than a top-down style of leadership. Jefferson High had two teachers serving as part-time IB coordinators. In both cases, the IB coordinators taught at least two IB classes and a regular class. IB coordinators mentioned there were pros and cons to the teacher-leader model IB espouses. One positive aspect of being a teacher and the IB coordinator was described in the following way:

Teachers would like to tell some administrator "you don't understand how difficult it is to get all of these things done, I can't meet this deadline." But they know they can't say that to me because I am working under the same deadlines they are. (interview, January 14, 2005)

At Jefferson High, having the program led by a teacher also created a strong sense of teacher commitment. The coordinator wrote, "the teaching staff is extremely supportive, many work far beyond their normal work day . . . taking on additional projects to support students" (Diploma Program Evaluation, March 2005).

Systems Interventions

Organizational and local political context can also affect program implementation (Timar, 2003). Schools operating in urban settings characterized by unstable finances, personnel mobility, and school board member turnover are more likely to have difficulty sustaining reforms (Desimone, 2002). In Jefferson High's case, because the IB program was considered a valuable

commodity, the program maintained fidelity despite significant challenges.

A significant source of challenge arose from a misalignment between the district goals and the goals of the IB program where student achievement was concerned. This created conflict between the stakeholders: parents and students, district administrators, and IB administrators. Supporters of the IB program had great difficulty in demonstrating its academic and motivational benefit to the students and, ultimately, the district because these attributes were not being captured by the state's standardized tests. As the demands of NCLB (2001) grew, the district became increasingly focused on the achievement test scores of the lowest performing students and directed resources toward those students.

Beyond a student's grades, there are just a few signals of high achievement in schools today. Among these are gifted and talented programs (GATE), honors courses, AP courses, and IB courses (Solorzano & Ornelas, 2002). It is not easy to gain recognition from the University of California (UC), according to IBO representatives. However, IBO has managed to gain a substantial amount of recognition from the UC Office of the President for their IB Diploma recipients. This university recognition is evidence that the IB Diploma is a well-regarded educational program. In addition, students who pass IB courses at the "high" level (junior and senior year classes) receive honors credit (an extra point added to their GPA for each IB class) in California. Students who earn an IB Diploma can receive up to 30 college credits at the University of California. The IB program's prestige has helped Jefferson High to attract and retain highly qualified teachers. The most common reason teachers gave for staying at the school was the community of learning between teachers and students the IB program had built. An English teacher said, "IB has improved Jefferson High's reputation. It has given kids and teachers something to be proud of" (interview, March 1, 2005). The superintendent of Jefferson High's school district said the program has intrinsic value, "Some students don't pass the IB exams, however the experience, in and of itself is beneficial and

rewarding. I believe that any student that goes through and completes the program benefits” (written communication, June 12, 2005).

IB courses were valuable to students because universities give college credit to students who complete IB and AP courses, and students believe that these additional credits will improve their chances of being accepted to a prestigious university. Students believed that successfully completing the IB program would not only help them get into the college of their choice but it would also ensure that they had the skills they needed to do well once they got there. This belief kept students motivated enough to press on through all 4 years, even though the academic demands of the program were challenging. One example of persistence is from an essay by a young male Latino student who said:

In these past two years of high school I have learned more than I would in regular classes. My freshman year was an eye-opening year. I thought maybe they were joking about the difficulty of the classes but I quickly learned that I need to work hard in the classes. I struggled in math but I began to get it once I truly applied myself to the program. The IB diploma will look extremely good on my college application and will help me get into the college I want to, UCLA. (Student 72, essay, May 4, 2005)

Bryk and Schneider (2002) documented the lack of trust between parents, teachers, and district administration in their study of school reform in Chicago’s urban school districts. This lack of trust was a major barrier to implementing programs at the local level (Bryk & Schneider, 2002). The nature of the relationship between the IB coordinators and district administrators was combative, characterized by mistrust. Coordinators’ references to the district office as “downtown” when they spoke with one another communicated that district administrators were impersonal policy enforcers, rather than colleagues. The principal and district representatives at Jefferson High did not feel that the goals of IB were at odds with districtwide goals to raise the stan-

standardized tests scores of all students. However, the program coordinator did not share this belief. This is apparent in the 5-Year Review Document prepared by the coordinator for IBO. In it he said:

The district has chosen to place its energy and emphasis on numerical indicators of student progress and matching its program with externally imposed standards . . . which do not consider the learner as an important participant in what is to be learned. The prevailing educational philosophy within the school is to focus on improving the test performance of students in the lowest third in order to raise overall school test scores. We are given verbal commitments, only to have them retracted at a later date. Decisions and actions regarding the program are undertaken without the involvement and knowledge of the coordinators. Support of the program has been made a school responsibility; subsequently the district views IB as a drain on the school's resources. District officials have indicated that they do not want to attract too many students to the diploma program as it is a burden to the school. (Diploma Program Evaluation, March 2005)

The statements above exemplify Jefferson High's coordinators' concern that district administrators cared more about raising low-achieving students' test scores than high-achieving students' learning opportunities. The lack of alignment between district and IB coordinators' goals was a source of tension in the district-program relationship at Jefferson High. During an informal conversation with the program coordinators, the principal alluded to having things under control and taking care of the program but was either unwilling or unable to share specific information regarding budget issues that the coordinators were requesting. The principal concluded the interaction by reminding the coordinators that they may be IB program coordinators but they were just 2 of 136 teachers at his school (observation, March, 2005).

The IB Diploma Program leadership structure, as set up by IBO, does not work well within a larger district bureaucratic structure, which is characterized by the compartmentalization of information and strict lines of communication. In a typical school district, groups of principals meet with the district administrators to discuss districtwide issues such as staffing allocation and budget. Most of these matters are not taken back and shared with teachers. Program coordinators feel like they should be included in these issues in order to effectively manage the IB program. However, the district administrators were not willing to bend existing bureaucratic structures to accommodate the program coordinators' needs. Thus, Jefferson High's case includes evidence that the organizational context offers both supports, the external value placed on the program, and challenges, the lack of alignment between the school and district systems, to the implementation of the program.

Conclusion

The framework provided by Fixsen et al. (2005) suggests the core implementation and organizational components of programs like IB explicate the level of fidelity and sustainability the program is able to attain. If criteria from the framework developed by Fixsen et al. are used as the measure of implementation best practice, in Jefferson High's case the data suggest that the IB program typifies best practice in six of seven aspects of the framework (see Table 1). Do the core implementation and organizational components in fact drive implementation toward fidelity in an urban context? In Jefferson High's case, the IB program indeed had the policy and infrastructure components described by the framework to support implementation. This fact consequently led to the high level of program implementation.

Most of the research on reform implementation has had a discouraging message for school administrators. Many schools seeking to implement comprehensive school reform models look like Jefferson High: They are challenged by inconsistent district

support, the poor academic preparation of their students in grades K–8, the economic disadvantage of their students, overcrowded campuses, high principal turnover, and limited teacher capacity (Quint, 2006). Much of the program implementation research suggests these very challenges are the factors inhibiting many urban schools from implementing reforms (Berends et al., 2002). The case of Jefferson High is evidence that these challenges do not always restrict positive change. By utilizing many of the best practices suggested by Fixsen et al. (2005), program coordinators were able to sustain the IB program at Jefferson High. Thus, findings from this study suggest it is possible for urban educators to adopt a rigorous academic model with fidelity despite challenging local contexts. Urban school leaders should look for reform models like IB that have systems able to support solid implementation drivers if they hope to significantly influence instruction in a way that fosters advanced academic achievement.

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