

NCREST Support for the Development of an IB School Transformation Research System (STaRS)

Final Report

February 2013

Introduction

International Baccalaureate (IB) has worked for many years to develop and guide the implementation of three programmes (PYP, MYP and DP) designed to create strong schools, well prepared teachers, and high quality learning experiences – resulting in positive student outcomes. A substantial body of prior research shows that this has been accomplished. There are now 3,294 IB World Schools in 141 countries (per IB website), and evaluations indicate that graduates of IB programmes are highly successful in the next level of education (e.g., Analytical Services Team, Higher Education Statistics Agency, UK, 2011; Caspary, 2011; Tan & Bibby, 2012).

IB has been interested in knowing not only *whether* its programmes are successful, but also *how* IB programmes influence change in different kinds of schools, in a range of locales, and serving diverse student populations. To better understand how IB programs affect school change and school culture, IB has sponsored or undertaken a range of studies that look at the relationship between school features or programs and student outcomes (e.g., Hall, Elder, et al, 2009; Hallinger, Walker & Lee, 2010; IB Global Policy and Research, 2010; and Siskin, Weinstein & Sperling, 2010). These studies have typically involved the collection and analysis of new data to answer the research questions.

To permit the ongoing study of school change, however, the IB organization has decided to establish a system which could be used to collect data over time. This system would be embedded within the regular processes and practices of IB and would allow for:

- Regular monitoring of school practices that change as a result of participation in IB along with the perceptions and perspectives of those involved.
- Special studies on topics related to school transformation.

The National Center for Education, Schools and Teaching (NCREST) at Teachers College, Columbia University was asked to conceptualize this system, based on our deepening knowledge of IB and extensive prior experience with research on schools and colleges. NCREST is a research and development organization founded in 1990 by Linda Darling-Hammond and Ann Lieberman and currently directed by Jacqueline Ancess and Thomas Hatch. NCREST is particularly known for our

collaborative work with school systems, districts, school networks, and non-profit organizations. Our work to make research a meaningful contributor to practice is often expressed through our role as a *research partner* with school development organizations. Associate Director Elisabeth Barnett led this project, assisted by Jennifer Kim, Seamus Dolan and Jacqueline Ancess.

It was agreed that an additional research partner would be identified to broaden the knowledge base of the project team as well as increase the geographic diversity. Following a careful search, researchers Philip Hallinger and Allan Walker of the Hong Kong Institute of Education joined as collaborating partners. The project also benefited from close collaboration with the IB global research team, led by Michael Dean. The work began in January of 2012 and ended officially in December of 2012, with some tasks completed in early 2013.

The STaRS

The School Transformation Research System (STaRS) was to be created using existing data collection tools wherever possible. These would be administered or implemented at certain points in a member school's relationship with IB, e.g. when they attained candidate status, when they became authorized, and at regular intervals post-authorization. The resulting data would be periodically analyzed and shared within the IB organization and also available for use in studies with a particular focus.

In the process of working on a literature review and through discussions among the research team, we formulated a theory of action for the STaRS project:

- Any school transformation initiative is based on a 2-part theory of action. One part deals with how the transformation is structured (*prescriptive* aspects), while another part details how the transformation will influence student outcomes (*causal* aspects; from Chen, 1990, 1998). In the STaRS project, we are concerned with the first.
- Clarify on IB's prescriptive theory of action on school transformation would be enhanced by developing a framework that captures it. This would be influenced especially by the literature on comprehensive school reform (CSR), but also informed by literature on other approaches to transformation.
- Each element of the framework would be capable of being measured; choices of measurement approaches would be informed by the literature on measurement of implementation.
- The STaRS would use a framework – and measurements – that are appropriate for use throughout the world. The team would be reminded of this commitment by referring regularly to literature and experiences from a range of countries.
- The STaRS should take into account the priorities and practical realities of IB.

- The end product would be a framework accompanied by a collection of protocols and instruments along with recommendations for their utilization.

Project activities and deliverables

The following activities were conducted during the course of the project:

Identification of a partner (February - April 2012): NCREST undertook a search for a research partner. The IB research office provided a spreadsheet of individuals at universities or organizations who had undertaken related research. We highlighted 5-7 researchers whose background matched the needs of the project and created a report summarizing each researcher's areas of expertise, career highlights, previous work with or on the IB, key publications, and previous work on school transformation or instrument development. After a meeting with Michael Dean, four individuals were selected for telephone interviews. Philip Hallinger and Allen Walker of the Hong Kong Institute of Education were asked to join the project, and accepted the invitation.

A sub-contract was created between the two researchers and Teachers College that covered the period from May through December of 2012. There were regular telephone and email communications to coordinate project activities for the remainder of the project, as well as an in-person meeting of the lead researchers in June 2012.

Literature review (March-June 2012): In consultation with Michael Dean, NCREST outlined a literature review that would serve as a resource document for the project. The purpose of the review was to gather background information and current research that would be of use in conceptualizing the STaRS. It included the following:

- A working definition of school transformation.
- Three short profiles of school transformation as it has evolved in India, Turkey, and the US.
- Profiles of prominent types of school transformation, emphasizing their theories of action.
- Information on IB's four programmes and IB-specific drivers of school transformation.
- Background on how the measurement of school transformation has been approached in research.

The final document is attached in Appendix A. Commentary on the literature review was provided by Hallinger and Walker during the June meeting in the Hague on are included in Appendix B.

Meeting in the Hague (June 2012): A 2 ½ day meeting was convened in the Hague in June 2012 to develop a working framework for the STaRS based on the information gathered in the literature review, commentary on the lit review, input from various IB representatives, and the views of the lead members of the research team (IB, NCREST, and Hallinger and Walker). The meeting's intended goals were as follows:

1. To better understand the IB theory of change (i.e., what is hypothesized to create better outcomes for students).
2. To draft a framework for the STaRS.
3. To consider the suitability of existing instruments for inclusion in the STaRS.
4. To understand how STaRS instruments would fit into the IB culture and calendar.
5. To identify research designs that could be implemented based on questions of interest and the availability of STaRS data.

To achieve this, the time was divided into a number of meetings, each of which had a particular focus (see agenda in Appendix C). The literature review was discussed as was the commentary by Drs. Walker and Hallinger. Meetings were held with representatives of the IB world organization as well as within the research team.

A number of decisions were made in these meetings that usefully directed our activities through the end of the project. First, an overall framework was created. Three meta-categories were chosen pertaining to transformation: school practice/change, teacher practice/change, and student practice/change. Within each category, several sub-categories were identified as important based on the literature and IB priorities:

School practice/change

- Instructional leadership
- Internal systems for teacher support and professional development
- Collaboration
- School culture
- School philosophy, mission, and other big ideas

Teacher practice/change

- Skills, especially in pedagogy
- Beliefs about teaching and learning
- Commitment, engagement

Student practice/change

- Critical thinking—critical, creative, reflective
- Engagement
- Inquiry—curiosity, research skills, questioning
- Social responsibility, caring, principled-ness

Based on these categories and further discussions, it was agreed that the STaRS should strive to:

- Be longitudinal, but based on snapshots at specific points in time.
- Use mixed methods overall, but not necessarily by topic.
- Differ by programme when necessary, but be usable across programmes whenever possible.
- Be cost and time conscious for both schools and for IB researchers.
- Use existing instruments/measurement approaches.
- Be set up in a way that allows additional instruments/measures to be added later.

By the end of the meeting, we had developed a work plan to carry us through the balance of the project.

Development of compendia and topics documents (June – October 2012): The next step was to work on the development of a compendium of instruments for each of the three major categories in the framework—school, teacher, and student practice/change. To begin this work, NCREST researchers developed an Excel template in which existing instruments were listed by name, source, type, key characteristics, etc. We sought out tools that had prior usage in research, published information on their validity and reliability, and were practical enough for usage on a large scale. At the outset, we agreed to include instruments that were lacking in one or more of these areas, but still appeared useful, such as a scale on a topic of interest embedded within a larger survey. The IB also provided a list of instruments they had previously used or thought had potential value.

NCREST sought out instruments on student and teacher practice/change; Hallinger and Walker looked for instruments on school practice/change. NCREST conducted searches for instruments and related research using ERIC, Academic Search Premier, PsychINFO, Google and Google Scholar as well as in journals and books. Where possible, we used existing collections of instruments from large organizations, such as the National Center for Education Evaluation's (Malone et al, 2010) compilation of instruments measuring student engagement. In addition, we searched for the work of well-regarded scholars. We preferred instruments that had gone through prior validity and reliability testing, but included some that have not yet been thoroughly tested but that appeared especially useful. In addition, we made an effort to find instruments that were either designed or used in research outside the U.S.

Along with the three compendia, the researchers submitted a written report on each of the three categories. Each report included definitions of terms, identified the most promising the instruments from the compendium, and discussed important considerations in the creation of the STaRS. The three reports and compendia are included in Appendix D, E., and F.

Creation of a system (November 2012 – January 2013): A final step in this project was to develop recommendations on how the instruments might be combined into an overall system that could be used to collect data over time. To this end, NCREST summarized the information and recommendations that had been assembled in the three compendia and three associated reports into a set of Powerpoint slides (Appendix G). In this document, we also outlined IB priorities as well as existing IB data collection activities, instruments, and timelines. Based on these considerations, we developed two alternative scenarios for the STaRS, as well as a set of observations on administration and monitoring.

Three other documents were created to help in the refinement of the system: 1) a summary of the instruments identified as having highest value for the system and the reason why they were selected (Appendix H), 2) information on the sources of the instruments and practical aspects of obtaining them (Appendix I), 3) a summary of IB programme types, locations, authorization status, language and regional affiliation to be used in planning the system (Appendix J).

Research recommendations report (October 2012 – January 2013): Walker and Hallinger had agreed to provide an analysis of research opportunities and challenges related to the implementation of STaRS. Their report is entitled *Research Issues in Studying School Transformation and Improvement in International Baccalaureate Schools* and is included in Appendix K. As their introduction states,

This brief paper is divided into three two sections. First it introduces the underlying rationale for developing greater capacity for conducting research on IB schools. Second, the paper presents a conceptual framework that could be employed flexibly in order to monitor change in the relationships among key school and classroom process variables and school outcomes over time. Finally, it provides an overview of possible research issues and topics that could be addressed through analysis of data collected through the School Transformation and Research System (STARS).

Wrap up (January 2013): The project is considered complete as of January 2013. A final meeting was held by conference call was held on January 24th to share the final products and offer any observations. Michael Dean and the IB team will next begin the process of making decisions about how to structure the system based on their needs and priorities.

Final thoughts

The STaRS system has the potential to become a highly valuable system that serves multiple purposes over time. As it is tied to the school authorization cycle, there can be determinations made of the extent to which schools, teachers and students change during each phase of a school's involvement with IB. In addition, STaRS can be used as an early alert system, with data points that would trigger a supportive response from the IB organization in case of trouble, or a celebration in case of

major gains. Further, relationships can be examined between certain practices, or combinations of practices, and desired student outcomes. Finally, the data can be used to implement a wide range of research projects that answer questions of interest to IB and the wider education community.

It has been a privilege to work on this project with the IB organization, as well as our colleagues from the Hong Kong Institute. It has been educational and intriguing to help conceptualize this innovative approach to collecting and using data. We look forward to hearing about how it works out!

References

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Appendices

Appendix A. School Transformation Research System (STaRS): A Working Review of the Literature (June 2012)

Appendix B: Commentary on the literature review by Hallinger and Walker (June 2012)

Appendix C: Meeting agenda, STaRS Project, the Hague, June 17-19, 2012

Appendix D: School transformation research system for international baccalaureate student practice and change [report]

Appendix D1: Compendium of instruments on student practice/change

Appendix E: Assessing Teacher Practice: Exploration and Review of Instruments to inform the development of IB STaRS

Appendix E1: Compendium of instruments on teacher practice/change

Appendix F: Assessing School Practice in IB Schools: Analysis and Application for Development of STARS

Appendix F1: Compendium of instruments on school practice/change

Appendix G: IB School Transformation Research System (STaRS): Final Recommendations

Appendix H: High value instruments list

Appendix I: Information on the sources of the instruments

Appendix J: IB Profile-- Overview of IB programme types, locations, authorization status, language and regional affiliation

Appendix K: Research Issues in Studying School Transformation and Improvement in International Baccalaureate Schools.