A Study of Successful Practices in the IB Program Continuum

Philip Hallinger
Allan Walker
Moosung Lee

The Joseph Lau Luen Hung Charitable Trust
Asia Pacific Center for Leadership and Change
The Hong Kong Institute of Education
Hong Kong SAR
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Corresponding researcher:
Professor Philip Hallinger
The Joseph Lau Luen Hung Charitable Trust Asia Pacific Centre for Leadership and Change
The Hong Kong Institute of Education
10 Lo Ping Road, Tai Po, Hong Kong
Telephone: (852) 2948 8783
Fax: (852) 2948 8634
Website: http://www.ied.edu.hk/apclc
Email: hallinger@gmail.com
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Executive Summary

Having grown dramatically in recent years in response to the burgeoning demand for high quality IB programs, there is a need to document school strategies and practices associated with successful program transition and curriculum articulation. In this project, we aim to illuminate key strategies and practices that promote successful program implementation and transition. To this end, we conducted a mixed-methods study (i.e. quantitative first and qualitative follow-up), which is analytically-separate but conceptually-integrated for the purpose of investigating key school factors associated with the successful implementation of the IB curriculum in different school settings.

Specifically, our quantitative analysis of the IB global survey gathered from 235 IB coordinators served as the foundation for a series of descriptive statistical analyses in order to examine school practices associated with high-quality program implementation of the IB curriculum transition from MYP to DP. The key findings are categorized into five areas:

1) Learning Culture
2) Challenges and changes in the MYP-DP transition
3) Leadership and management
4) Monitoring and Assessment
5) Differences and Similarities: Asia Pacific IB schools vs. other IB schools

Based on our comprehensive analysis of the IB survey data, we conducted multiple case studies from five schools in Thailand, Vietnam, Hong Kong and China. Drawing from our case study findings, we aimed to gain an in-depth understanding of how the schools manage transitions across IB programs (PYP/MYP/DP). We identified that the case schools employed leadership practices and management strategies in order to address issues and challenges emerging from program transitions. The commonly and saliently identified leadership practices and management strategies are narrowed down into 1) various strategies for the purpose of articulation, 2) cross-program interaction, and 3) strategic staffing. Among the three major leadership and management strategies, articulation turned out to be the only theme that is ‘directly’ connected to program transition. At the same time, articulation ‘indirectly’ promoted a better transition through building ‘consistency and coherence’ between programs. ‘Consistency’ between programs in terms of teaching, learning, and assessment was critical to a smooth transition. In a similar vein, ‘coherence’ of curriculum between programs was another key pillar for a smooth transition. Finally, ‘support for students’ turned out to be also directly associated with better program transitions in particular.

Based on our findings synthesized from both the survey and the case studies, we sought answers for the overarching research question: What are key school factors that facilitate successful program implementation? Key implications and in-depth discussions are offered in the final two chapters of the project report.

1 The MYP-DP transition survey was administered by the IB’s Academic Division in 2008. The response rate was 49%.
An Extended Executive Summary

Project Overview

The current research project aims to document the strategies and practices used by IB schools to promote better program implementation and transition across the world and within the Asia Pacific region. Specifically, this project focuses primarily on schools that offer the full continuum of IB programs and involves two main components:

1) Analysis of data from a global survey of MYP and DP coordinators to attain a broad picture of successful practices used by IB schools internationally,
2) Case studies of full continuum IB schools in the Asia Pacific region in order to gain an in-depth understanding of how the schools manage transitions across IB programs (PYP/MYP/DP).²

Based on the two main project components, we sought answers for the overarching research question: What are key school factors that facilitate successful program implementation? To investigate the overarching question, several key sub-questions were specified as follows:

1) What are key school strategies that contribute significantly to making better program transitions?
2) What are commonly identified school strategies that shape successful program transitions?
3) How and why do they work?
4) What are crucial tensions and problems embedded in program transitions?

To investigate these questions, we conducted a three-phase, multi-method study, whose phases are analytically-separate but conceptually-integrated for the purpose of investigating key school factors associated with the successful implementation of the IB curriculum in different school settings. Given the objectives of this project, our implementation of this design entailed three phases:

1) IB school survey data analysis
2) Multiple case studies
3) Synthesis of key findings from both the survey and the case studies

The MYP-DP survey data had already been collected by the IB. During the initial stage of the project, we cleaned the data set and began analysis. The quantitative analysis of the survey data served as the foundation for a series of descriptive statistical analyses in order to examine school practices associated with high-quality program implementation of the IB curriculum transition from MYP to DP. To this end, we focused particularly on categorical data analysis since the MYP-DP survey consists mostly of categorical data. Specifically, we used several different chi-square tests such as nominal-by-ordinal and ordinal-by-ordinal relationship analyses because categories of variables in the survey were mostly ordered. Reflecting the nature of the survey data based on 235 IB coordinators’ responses, we focused on IB coordinators as the unit of analysis.

² While our qualitative analysis focused particularly on MYP-DP transition challenges/successes, we came to cover PYP-MYP transition issues partially as our case study schools implement the full IB continuum.
For the multiple case studies, five schools in Thailand (two schools), Vietnam (one school), Hong Kong (one school) and China (one school) were identified collaboratively with the IB. Several important selection criteria were employed. First, consistent with the primary purpose of the study, schools that offer the full continuum of IB programs were purposively selected. Second, the IB informed us that the selected IB schools in this study have been fairly successful on DP exams. For example, the selected schools showed relatively better school performance in the DP-level average subject grade than other IB schools. Third, we considered diversity in terms of country, school size, and type of student populations. This means that the schools selected for the multiple case studies were not selected on the basis of ‘successful transition.’ In fact, the schools acknowledged that the concern over transition was in many case a relatively new one. They were experimenting with how to ‘make it work’ for their students. In this regard, the selected schools were information-rich cases because they demonstrated their successful strategies for program transition, and at the same time, they showed concerns and tensions embedded in program transition.

We collected substantial interview data from teachers, administrators, and students. Classroom observations were also conducted for gathering supplementary information. In addition, key school documents from the five schools were collected for the same purpose. For gathering interview data, in total, 68 teachers and administrators were interviewed and 25 students were interviewed. The initial interview protocol was based on the quantitative results from the IB MYP-DP survey. This semi-structured interview protocol focused on key staff members’ and students’ perceptions of critical school characteristics in association with the IB curriculum implementation and transition across the three IB programs. Because we conducted similar interview procedures with the same basic protocol, this iterative process of data collection functioned as a constant comparative method (Corbin & Strauss, 1998).

We developed a coding scheme based on patterns emerging from the interviews and the results from the IB survey. We developed 52 initial codes in terms of school context (12 codes), school culture (8 codes), leadership and management (8 codes), and program transition (24 codes) that we developed for interview data codings. To reduce large amounts of our interview data into a smaller number of analytical units based on similar themes, we conducted pattern codings (Miles & Huberman, 1994). This helped us to generate an elaborated thematic network map that visualizes complex but clear relationships among themes (Attride-Stirling, 2001).

**Key Findings from the IB Survey**

The key findings are categorized into five areas:

1) Learning Culture
2) Challenges and changes in the MYP-DP transition
3) Leadership and management
4) Monitoring and Assessment
5) Differences and Similarities: Asia Pacific IB schools vs. other IB schools

First, with respect to learning culture, DP turned out to have a more test-oriented learning
culture than MYP. MYP coordinators were more critical of DP’s test-oriented learning culture than DP coordinators. MYP in full continuum schools (FCS) seemed less test-oriented than MYP in partial continuum schools (PCS, e.g. schools having MYP-DP only). At the same time, however, DP in FCS seemed less inquiry-based than DP in PCS. Different teaching practices were used in MYP compared with DP; the predominant inquiry-oriented learning practices used in MYP were viewed as “desirable” by a majority of both MYP and DP coordinators.

Second, one common challenge related to transition perceived by both PCS and FCS coordinators was “dealing with detailed and prescribed content in DP.” There were also common changes needed for improving the transition that were perceived by both PCS and FCS coordinators: 1) Increased emphasis on interdisciplinary learning in the DP; 2) Access to a wider range of assessment tools in the DP; and 3) Greater MYP program recognition (with governments and universities). At the same time, however, PCS and FCS coordinators emphasized different changes needed in the programs and program transition. Interestingly enough, coordinators from FCS were more likely than their counterparts from PCS to indicate that the transition has been satisfactory.

Third, we found that key leadership and management strategies were associated with successful transitions:
1) The presence of school leadership across programs
2) Teachers teaching both of the programs (i.e. MYP and DP)
3) Development of subject vertical and horizontal articulation documents
4) Meetings/collaboration between teachers of each program
5) Meetings/collaboration between MYP and DP coordinators

Fourth, with respect to monitoring and assessment, there were no distinguished patterns for monitoring and assessment used for both MYP and DP students’ progress and performance. The ways of monitoring and assessing both MYP and DP students’ progress and performance were similar. However, FCS were more likely than PCS to utilize 1) written reports; 2) parents/teacher/students conferences; and 3) school leadership teams for monitoring and assessing both MYP and DP students’ performance.

Finally, while there were many similarities concerning IB implementation in the Asia Pacific region, some distinctive characteristics were also identified. Notably, several differences by learning culture, monitoring and assessment, and changes needed suggest that the IB schools in the Asia Pacific region may have a more test-oriented learning culture and thereby having different changes needed for the transition. It should be noted that they tended to view “less content in DP” as a more important change needed. They were less likely than other IB coordinators to view “external MYP exams” as important. Furthermore, they tended to view that “standardized internal MYP assessment tasks” as change, neither important nor unimportant. Reflecting these changes they need for improving the transition, they were less likely to characterize that their DP learning culture places an emphasis on student inquiry. Our qualitative data analyses further investigate how learning culture and changes the Asia Pacific IB schools face are associated with curriculum implementation.
**Key Findings from the Multiple Case Studies**

There were 18 key themes associated with successful program transition and curriculum articulation.

1. Articulation
2. Consistency and coherence
3. Consistent assessment
4. Cross-program interaction (students)
5. Cross-program interaction (staff)
6. Cross-program involvement (staff)
7. Difference in assessment
8. Difference in learning and teaching
9. External factors
10. Interpretation of IB
11. Leadership and school management
12. Local contexts
13. Parent education/meeting
14. School size
15. Staffing
16. Structured pastoral support
17. Support for students
18. Within program collaboration

Of the 18 themes, 10 common themes and their interactions with other themes were identified across the five schools, which were illustrated in the form of a network map (see Figure 4-3, p. 55). Using the network map, we illustrated that there are three major external conditions that the case schools commonly face: school contexts (including school size, local context/culture, and key stakeholders’ concerns), interpretation of IB program (i.e. interpretation of IB program by different key stakeholders), and external factors (e.g. IB assessments and university requirements).

Notably, we identified that the case schools also attempted to respond to those external conditions through leadership practices and school management strategies. The network map represents that the commonly and saliently identified leadership practices and management strategies are narrowed down into 1) various strategies for the purpose of articulation, 2) cross-program interaction, and 3) strategic staffing. Among the three major leadership and school management strategies, articulation turned out to be the only theme that is directly connected to program transition. At the same time, articulation indirectly promotes a better transition through building consistency and coherence between programs. Consistency between programs in terms of teaching, learning, and assessment was critical to a smooth transition. In a similar vein, coherence of curriculum between programs was another key pillar for a smooth transition. Finally, support for students turned out to be also directly associated with better program implementations and transitions in particular.
Let us briefly provide detailed explanations about the thematic network described above. First, several external conditions (e.g. school contexts, different interpretations of IB, university requirements, etc.) turned out to be associated with program implementation and transition. Specifically, socio-cultural factors embedded in local contexts functioned as challenges in providing a better understanding of IB programs. For example, the case study schools had to address local parents’ different pedagogical understandings of the IB programs deeply rooted in local education systems and cultures. In addition, among several key organizational features (e.g. student ethnic proportion, faculty size, school history), school size was the most salient theme that is indirectly related to program transition. School size influenced 1) cross-program interaction among students and 2) cross-program interaction among staff. In brief, a smaller school size seems to make the quality of transition effective because it contributes to cross-program fertilization through cross-program interaction among school members. Another distinctive school context identified was different interpretations of IB programs among key administrators and teachers. A majority of administrators and teachers viewed tensions as embedded between MYP and DP in particular as they interpreted key characteristics of MYP and DP differently. This different interpretation of the nature of MYP and DP seems to be related to other external factors such as IB diploma exams or university requirements although such linkage was identified from only a few schools. Obviously, IB diploma exams and university requirements functioned as key external constraints that tend to shape different learning cultures between MYP and DP in general and different learning styles, teaching methods, and assessments between MYP and DP in particular.

Second, leadership and school management enabled the schools to respond to the external conditions and implement better program transitions. Articulation was clearly emphasized for enhancing coherent linkages between programs and/or visualizing consistent curriculum throughout programs. In other words, articulation was the overarching strategy identified from all the schools although there were some variations in terms of approaches to articulation. We categorized such variations into three types: 1) backwards mapping, 2) cross-program interaction among staff, and 3) documentation. Whereas cross-program interaction among staff was one of the organizational tools for articulation, at the same time, however, it should be noted that all the five schools viewed cross-program interaction among staff as a broader strategy beyond articulation. Cross-program interaction among staff was commonly identified as a key leadership and management strategy that aims at supporting students and thereby forming better program transitions. Various types of cross-program interactions among staff were identified. They can be categorized into two major types: 1) cross-program interaction and 2) cross-program involvement. Cross-program interaction here includes both informal and formal interactions among staff in association with program transition. With respect to informal interactions, teachers and coordinators from different programs tended to have a chance to understand others’ work and programs serendipitously through informal interactions such as lunch together and informal chat in a shared staff room. With respect to formal interactions, teachers and administrators tended to learn more about other programs from formal meetings such as regular staff meetings and school-wide workshops. Another type of cross-program interaction can be labeled as
cross-program involvement that includes 1) cross-program teaching (teachers teach more than one program such as both MYP and DP), 2) cross-program cooperation (some teachers get involved in other programs as a mentor or project supervisor), and 3) cross-program experience (some staff have teaching/coordinating experiences of other programs. Finally, staffing was utilized to facilitate better program implementation and transition in the five schools. Specifically, there were different types of staffing features identified in different schools (e.g. IB-focused hiring, cross-hiring, multiple positioning, position switching, etc.).

Third, the three major leadership and school management strategies discussed above were associated with the enhancement of ‘consistency and coherence’ perceived by teachers and students. In particular, the contribution of various articulation strategies and staffing practices to ‘consistency and coherence’ were clearly identified from the five schools. The findings suggest that consistency and coherence were perceived by students and staff especially when curriculum was clearly articulated, when learning culture (including assessment and teaching methods) was consistent throughout the three programs, and when common language (ranging from IB lexicons to IB interpretations) was shared throughout the three programs. More important is that such perceived consistency and coherence promotes better program transitions ‘directly.’

Fourth, there were abundant cases identified of how support for students enables students to better adapt to a new program in general and DP in particular. All the schools also emphasized not only program transition but also social transition. To this end, they provided a more structured pastoral support for students. It should be also noted that the schools acknowledge that program transition issues are interwoven with pastoral transitions, which occur on a daily basis.

In summary, the multiple case studies illuminate how leadership and school management enabled the schools to respond to the school context, and design and implement better program transitions. Specifically, articulation, cross-program involvement/interaction, and staffing were the commonly identified success factors that contribute to coherence, consistency and support for students in program transitions. Based on these findings, we believe that the density of leadership and organizational learning throughout the case schools enable more effective responses to various program transition issues.

**Synthesis of Both the Survey and the Case Studies**

There were considerably similar findings identified from both the quantitative and qualitative studies. This suggests that the findings from our qualitative study can be transferred or applied to other IB schools’ contexts although the case schools are located in the Asia-Pacific region. This also suggests that many of IB schools are confronting similar transition issues. With this in mind, we list key common findings identified from both the quantitative and qualitative studies.

1) With respect to learning culture embedded in MYP and DP, both of the studies showed that

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3 Here, coherence refers to whether different IB programs are explicitly linked to one another. Consistency is defined as alignment between of the messages within individual IB programs (PYP, MYP, and DP), and their openness to interpretation by those involved (or not involved).
increased emphasis on interdisciplinary learning and/or inquiry-based learning in the DP is needed and that a wider range of internal assessment tools in the DP is needed.

2) With respect to program transition, both the survey and the case studies indicated that leadership and management contribute significantly to successful program transitions.

3) The importance of cross-program interaction/involvement for successful program transitions was commonly identified from both of the studies.

4) Consistent with the survey findings, the case studies showed that articulation is a key vehicle for program transitions.

In addition, there were a series of the survey findings that can be more clearly explained or supported by our interview data. Let us briefly describe those findings.

First, the IB survey data indicated that coordinators from partial-continuum schools tended to indicate somewhat lower evaluations of the MYP-DP transition than coordinators working in the full continuum schools. While the difference was statistically significant, the survey data did not provide any further information to explain this finding. Drawing from our qualitative data, we provide one feasible explanation regarding the finding—i.e. IB schools having the full continuum program are more likely to have an opportunity to facilitate cross-program fertilization through cross-program interaction and involvement as our case schools demonstrated. If this is the case, IB schools having the full continuum are more likely to bring some benefits that help program transitions through facilitating cross-program fertilization. Having the three programs would not necessarily be beneficial per se in the sense that more tensions or inconsistency may be embedded between each linkage of the three programs. However, as the case studies revealed, cross-program interaction/involvement was commonly and highly exercised in the case schools with the full continuum. This suggests that, as long as school leadership emphasizes cross-program interaction/involvement as a key strategy for program implementation, schools having more than one program or the full continuum are likely to have such cross-program interactions among staff, which sheds some light on explaining why coordinators from full-continuum schools were more likely to indicate somewhat higher evaluations of the transition than coordinators working for partial-continuum schools.

Second, as mentioned earlier, there were also some differences between the Asia-Pacific and IB schools in other regions from the survey data. Specifically, there were significant differences between them in terms of learning culture, monitoring/assessment, and changes needed. Specifically, the IB schools in the Asia Pacific region seem to have a more test-oriented learning culture and thereby require different changes needed for the transition. This phenomenon can be explained by local contexts facing IB schools in the Asia-Pacific region. That is, parents’ different pedagogical understandings deeply imprinted by local education systems and cultures seem to demand Asian IB schools to have external exams and subject contents as a key part of learning.

Finally, while there were no dramatically different findings between the IB survey and the case studies, there were several nuanced differences. An interview with DP students from one of the case schools implicitly suggested that drawing a sharp line between MYP and DP by
inquiry-based learning may not be necessarily correct. Rather, inquiry-based learning can be made in DP through more independent work with deep subject contents. Conversely, inquiry-based learning may not be done in MYP especially when MYP touches on wide topics in a basic level and in the form of group work where some students may not take some serious ownership in their inquiry-based learning. The interview also suggested that inquiry-based learning may depend more on the way teachers deploy subject contents and the nature of subjects. This phenomenon was echoed in some students’ preference of DP to MYP because DP is a more structured and in-depth way of learning what they want to study.

**Conclusion**

The commonly identified success factors from both the quantitative and qualitative data provide important implications for IB program implementation and transition. We view such success factors as ‘connectors’ that enhance coherence and consistency in IB program implementation and transition. For IB school leaders and educators, we suggest six key connectors based on our findings from both of the datasets—i.e. structural, intellectual, cultural, communicative, political, and professional connectors (see Chapter 6 for details about each connector).

Based on our findings, we also suggest some practical implications for IB as follows:

1) Learning approaches in PYP and MYP are developmentally appropriate, backed by current theory and research and suited to today’s world.

2) Both the survey and case studies clearly indicate the presence of disconnections between MYP/DP as problematic.

3) Focusing on transition strategies between programs is important, but at the same time, it is important to capture and recognize the larger problem of the need for change in DP.

Another more profound implication for IB resonates with the connection issue mentioned above. We believe that the connection issues within IB schools (see Chapter 6 for details) are echoed in connection issues between IB and IB schools. IB may need to take a closer look at the flip side of the six connectors mentioned above—i.e. the six types of disconnection between IB and IB world schools. As Walker (2006) pointed out, many programs and innovations such as IB programs are, in-and-of themselves, beneficial. But when parcelled together and thrust at speed in IB schools, the three IB programs could become unwieldy and disconnected. As a result, they could become less successful individually as well as collectively although there are obviously ‘stories of success’ identified from the case schools. In particular, the lack of alignment of assessment tools and philosophy embedded in MYP with DP is a critical issue facing IB schools. Thus, the alignment issue between the programs should be addressed without losing the quality of DP. Providing more clear guidelines for IB world schools seems to be critical.
1. INTRODUCTION

The International Baccalaureate (IB) is a global leader in international education, encouraging students to be active learners, well-rounded individuals, and engaged world citizens. Having grown dramatically in recent years in response to the burgeoning demand for high quality international curriculum, there is a need to document school practices associated with successful program implementation.

The purpose of the current research project is to document the strategies and practices used by IB schools to promote positive student outcomes across the world and within the Asia Pacific region. Specifically, this project aims to gather information that can be used internally for program development purposes within the IB organization and community of schools, as well as externally for public communication and relations. More specifically, this project focuses primarily on schools that offer the full continuum of IB programs and involves two main components:

1) Analysis of data from a global survey of IB coordinators to attain a broad picture of successful practices used by IB schools internationally,
2) Case studies of full continuum IB schools in the Asia Pacific region in order to gain an in-depth understanding of how the schools manage transitions across IB programs (PYP/MYP/DP). The case studies cover five IB schools located in Hong Kong, China, Thailand and Vietnam to gain an in-depth understanding of IB program implementation and articulation and to provide a more comprehensive picture of differences and similarities in IB implementation among schools in the Asia Pacific region.

Based on the two main project components, we sought answers for the overarching research question:

- What are key school factors that facilitate successful program implementation?

To investigate the overarching question, several key sub-questions were specified as follows:

- What are key school strategies that contribute significantly to making better program transitions?
- What are commonly identified school strategies that shape successful program transitions?
- How and why do they work?
- What are crucial tensions and problems embedded in program transitions?

With these questions in mind, we conducted the analysis of the survey of 235 coordinators from 175 IB schools around the world. Details of this analysis are specified in the Research Design and Methodology chapter of the report. We also conducted multiple case studies of five IB schools in the Asia-Pacific region identified collaboratively with the IB. These case studies used multiple methods (i.e., observation, interview, document analysis) as elaborated in the Research Design and Methodology chapter.

This report consists of six parts. Chapter 2 describes the design of the present research project: a study utilizing a sequential explanatory design (Creswell, Plano Clark, Gutmann, & Hanson, 2003) that consists of 1) quantitative analysis of the IB survey and 2) follow-up
semi-structured interviews providing in-depth understandings and further explanations, not available through the IB survey.

Chapter 3 illuminates major findings from the IB survey and their implications. To this end, Chapter 3 consists of five major parts in accordance with key findings: 1) learning culture, 2) MYP-DP transition (challenges and changes), 3) leadership and management, 4) monitoring and assessment, and 5) regional differences (Asia-Pacific vs. others).

Chapter 4 illuminates key findings from the multiple case studies. In discussing our findings, we utilize thematic networks that illustrate how various school factors are associated with each other that shape program transitions. Through the thematic networks, we also capture and discuss the common strategies for articulation used by the case schools for making better program implementation and transition.

Chapter 5, we provide a brief synthesis of key findings identified from both the IB survey and the case studies.

Chapter 6 presents the implications of this research project for school leaders, educators, and IB policy makers.
2. RESEARCH DESIGN AND METHODOLOGY

2-1. Research Design

We conducted a three-phase, multi-method study, whose phases are analytically-separate but conceptually-integrated for the purpose of investigating key school factors associated with the successful implementation of the IB curriculum in different school settings. The mixed methods study employed a ‘sequential explanatory’ design.

Given the objectives of this project, our implementation of this design entailed three phases:

1. IB school survey data analysis
2. Multiple case studies
3. Synthesis of key findings from both the survey and the case studies

In Phase One (September 2009 to December 2010) we analyzed the existing survey data collected by the IB from 235 IB coordinators. The survey focused on MYP-DP transition issues and the response rate was 49%. Particular attention in the analysis was given to the 125 coordinators from schools that offer the full continuum. The primary purpose of this survey analysis was to determine patterns in the nature of the IB curriculum in general, and more specifically to analyze factors associated with successful transition from MYP to DP across schools. To the extent possible, we analyzed the relationship between school context factors (e.g., school type, IB region, school’s learning culture etc.) and MYP-DP transition actions/strategies. In brief, the analysis aimed at identifying various factors associated with MYP-DP articulation and transition. The analysis also examined patterns among IB schools that offer the full continuum and how full continuum IB schools differ from those that do not offer the full continuum.

In Phase Two (November 2009 to February 2010) we conducted multiple case studies. These took place at five schools implementing the full range of IB programs, located in Thailand, Vietnam, Hong Kong, and China. The case studies focused on capturing an in-depth picture of the normative practices and school structures that foster effective implementation of and transitions among the IB programs. Specifically, the case studies focused on further exploring the patterns that emerged from the survey analysis. For example, the multi-site case studies enabled us to
capture how various contextual factors across the region impact IB program implementation. In particular, socio-cultural factors that impact the work of teachers and implementation of the IB curriculum were explored. More importantly, our analysis focused on issues such as how the schools achieve curriculum rigor and maintain cross-program curriculum coherence and consistency. In brief, we conducted multi-site case studies of the selected IB schools in Asia with a more balanced regional perspective.

In Phase Three (February 2010 to March 2010), the findings from both the survey and the case studies were concisely synthesized to create an overall picture of successful IB curriculum implementation in general and in the Asia Pacific more specifically. Additionally, implications for IB schools and the IB, based on key findings, were discussed and summarized during this final phase.

2-2. Methodology

2-2-1. Quantitative Data and Analysis

The MYP-DP survey data had already been collected by the IB organization. During the initial stage of the project, we cleaned the data set and began analysis. The quantitative analysis of the survey data served as the foundation for a series of descriptive statistical analyses in order to examine school practices associated with high-quality program implementation of the IB curriculum transition from MYP to DP.

To this end, we focused particularly on categorical data analysis since the MYP-DP survey consists mostly of categorical data. Specifically, we used several different chi-square tests such as nominal-by-ordinal and ordinal-by-ordinal relationship analyses because categories of variables in the survey were mostly ordered.

Reflecting the nature of the survey data based on 235 IB coordinators’ responses, we focused on IB coordinators as the unit of analysis. There are several reasons for using IB coordinators as the unit of analysis.

- First, although the dataset has school IDs, many of the schools included two IB coordinators’ responses. Therefore, schools do not represent a solid unit of analysis for our data exploration. Furthermore, there were often inconsistent responses between the two or three IB coordinators responding within the same schools.
- Second, technically, making a composite variable between more than one IB coordinators’ responses was meaningless since most are binary variables.
- Finally, upon request by the IB, our analytical foci centered on a series of comparisons.
between coordinators at full continuum schools (FCS) and coordinators at partial continuum schools (PCS); this distinction refers to schools having MYP-DP programs only.

Of the 235 IB coordinators, 125 coordinators were from full continuum schools (FCS). The other 110 coordinators were from schools with MYP-DP only (103 coordinators), MYP only (6 coordinators), or DP only (1 coordinator). While we used the whole sample for identifying the general patterns of IB school characteristics, for some analyses we excluded the 7 coordinators from MYP only schools and DP only schools. Our rationale was that the small number of coordinators from schools violates basic assumptions of chi-square tests. In our analysis, we paid special attention to revealing major differences in terms of programs (i.e. FCS vs. PCS) and regions (i.e., schools in Asia Pacific vs. schools in other regions).\(^7\) Analytically, since the survey dataset includes largely binary or ordered categorical variables, a series of Chi-square tests were conducted (mostly Mantel-Haenszel Chi-square tests).

2-2-2. Qualitative Data Collection

School Selection

For the multiple case studies, five schools in Thailand, Vietnam, Hong Kong and China were identified collaboratively with the IB (see Table 2-1).\(^8\) Several important selection criteria were employed. First, consistent with the primary purpose of the study, schools that offer the full continuum of IB programs were purposively selected. Second, we reflected evaluation results in IB assessments—i.e. the IB informed us that the selected IB schools in this study have been fairly successful on DP exams. For example, the selected schools showed relatively better school performance in the DP-level average subject grade than other IB schools. Third, we considered diversity in terms of country, school size, and type of student populations (see Table 2-1). This means that the schools selected for the multiple case studies were not selected on the basis of ‘successful transition.’ In fact, the schools acknowledged that the concern over transition was in many case a relatively new one. They were experimenting with how to ‘make it work’ for their students. In this regard, the selected schools were information-rich cases because they demonstrated their successful strategies for program transition, and at the same time, they showed concerns and tensions embedded in program transition.

Table 2-1 presents the basic school information. Some noticeable information can be summarized as follows. In terms of school size, School 2 was the smallest one while Schools 1, 4, and 5 were relatively bigger schools. School 3 was the mid size school. Except School 4, which was the most recently established school, the others were founded in the 1990s or 1980s. In terms

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\(^7\) Additionally, note that in the original data, 4 Spanish and 2 African IB schools’ coordinators (i.e. Egyptian and Morocco) were incorrectly coded as Asia Pacific IB school coordinators.

\(^8\) Notably, the number of the case studies (i.e. the unit of case is each school) is regarded as sufficient for multi-site sample cases, as long as our findings from the subsequent case studies “provide compelling support for the initial set of propositions” that may emerge from the survey analysis and the initial case study (Yin, 1994, p. 46).
of student ethnic proportion, School 4 was unique in that it is a predominantly Chinese school (51% of the total students) while the other schools tended not to have one majority group that occupies more than 30% of the total student proportion. In the case of School 3, it has an internal policy that prevents it from having one particular ethnic student group more than 20% of the total student proportion. Despite these differences, one common profile of the schools is the fact that they show higher average subject grades on DP exams than IB schools around the world.

Table 2-1. General information of the case schools

<table>
<thead>
<tr>
<th>Name of School</th>
<th>School Size</th>
<th>Year Founded</th>
<th>Faculty-Student Ratio</th>
<th># of Student Nationalities</th>
<th>Student Ethnic Proportion</th>
<th>Average DP subject grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>School 1</td>
<td>1,410</td>
<td>1990s</td>
<td>1: 7.5</td>
<td>50</td>
<td>Thai 30% US 15% Indian 15% Australian 6% Japanese 5%</td>
<td>5.38</td>
</tr>
<tr>
<td>School 2</td>
<td>475</td>
<td>1990s</td>
<td>1:7.0</td>
<td>35</td>
<td>Not found</td>
<td>5.59</td>
</tr>
<tr>
<td>School 3</td>
<td>892</td>
<td>1980s</td>
<td>1:4.9</td>
<td>51</td>
<td>Vietnamese 17% Korean 13% US 12% Australian 8% UK 6%</td>
<td>5.33</td>
</tr>
<tr>
<td>School 4</td>
<td>1,748</td>
<td>2000s</td>
<td>1:16.3</td>
<td>40</td>
<td>Chinese 51% British 14% Canadian 12% US 5% Australian 5%</td>
<td>5.12</td>
</tr>
<tr>
<td>School 5</td>
<td>1,450</td>
<td>1990s</td>
<td>1:7.3</td>
<td>54</td>
<td>US 21% Korean 13% Australian 7% Canadian 7% Singaporean 5%</td>
<td>5.36</td>
</tr>
</tbody>
</table>

Notes:
*For the anonymity of interview participants, some school information such as location, country, and mission statement is not presented in the table. For the same purpose, the exact year each school was founded is not provided.
*All information based on the year of 2009
*The average subject grade in on DP exams around the world in 2009 was 4.69.

Data Collection

We collected data mainly from interviews with teachers, administrators, and students. Classroom observations were also conducted to gather supplementary information. In addition, key school documents from the five schools were collected for the same purpose.

For gathering interview data, in total, 68 teachers and administrators were interviewed and 25 students were interviewed. A majority of administrators such as principals, vice principals, and program coordinators were individually interviewed while most of teachers and all students were interviewed as a focus group. This approach generated two-fold advantages—i.e. while individual
interviews with key administrators secured enough time to draw key information related to transition issues, focus group interviews with homogenous sub-groups (e.g. Coordinators, DP teachers, and DP students) promoted participants to share their common experiences and challenges related to program implementation and transition.

The initial interview protocol was based on the quantitative results from the IB schools survey. The interview protocol consists of the five parts (see Appendices for the interview protocol we used):

1. Learning Culture
2. Challenges and changes in the MYP-DP transition
3. Leadership and management
4. Monitoring and Assessment
5. Differences and Similarities: Asia Pacific vs. others

Each part included three to six key interview questions tailored for principals, teachers, program coordinators, and students, respectively. This semi-structured interview protocol focused on key staff members’ and students’ perceptions of critical school characteristics in association with the IB curriculum implementation and transition across the three IB programs. Notably, we also added more structured interview questions as we finished interviews with first two case schools. Based on our initial interpretations and impressions from those interviews, we added some more structured interview questions for interviews at the remaining three schools while the same basic interview protocols were used for identifying common or differentiating factors shaping the success of the IB curriculum in the five schools. Because we conducted similar interview procedures with the same basic protocol, this iterative process of data collection functioned as a constant comparative method (Corbin & Strauss, 1998) and the more structured interview questions added later contributed to delving into deep stories from interviewees.

Table 2-2 shows our interview data collection scheme. The different colors indicate different types of interviews (i.e. individual or group interviews). The numbers in each cell indicate the number of people interviewed. As seen in the table, the original target groups included 1) principal/head/director, 2) vice-principals, 3) PYP coordinator, 4) MYP coordinator, 5) DP coordinator, and 6) DP students. Additionally, we interviewed one MYP student group because although our main focus was on MYP-DP transition, we intended to capture a fuller picture by including MYP students who have experienced PYP and MYP.

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9 As mentioned earlier, the main focus of our qualitative analysis was on MYP-DP transition challenges. However, we covered PYP-MYP transition issues to some extent in the process of semi-structured interview data collection as our case schools implement the full continuum.
For all interviews, at least two interviewers were involved. The underlying purpose of maintaining at least two interviewers was to cover all key issues; a single interviewer sometimes may digress from key issues and may not touch on some key interview questions amidst his/her interview. We, therefore, believe that our approach enabled us to cross-check key questions. Additionally, the approach enabled one interviewer to generate impromptu but important interview questions while the other interviewer was touching on planned questions.

All interviews were audio recorded. And some interviews were also video recorded with the participants’ permission for the purposes of teaching and dissemination regarding the best practices of IB curriculum implementation. We did not video-tape all interviews since this could reduce the comfort of informants for open expression. After each interview, we wrote analytic memos based on our impressions and reflections in order to capture more nuanced information.

We also conducted in-school observations. Consistent with the purpose of the interview data collection, in-school observations focused on identifying school characteristics which facilitate and inhibit both the implementation of the IB curriculum and transitions between the IB programs. Observations examined implementation models and transition processes practiced in the school. Table 2-3 shows 13 classroom observations we conducted in Schools 1, 4, and 5 (see also Appendices for the classroom observation framework we used).
At the same time, we documented a detailed description of the school, including school history, school mission and goals, organizational charts, job descriptions, key performance outcomes, task forces, administrative data describing student outcomes, curriculum implementation models, professional development supports, meeting agendas (particularly for meetings that focus on collaboration across IB programs) and relevant in-house materials for enriching the gathered information.

2-2-3. Qualitative Data Analysis

After completing interviews with the first two schools (i.e. School 2 and School 3), we started looking for codes and themes related to our research. We developed a coding scheme based on patterns emerging from the interviews and the results from the IB survey. Table 2-4 presents 52 initial codes in terms of school context (12 codes), school culture (8 codes), leadership and management (8 codes), and program transition (24 codes) that we developed for interview data codings.

To reduce large amounts of our interview data into a smaller number of analytical units based on similar themes, we conducted pattern codings (Miles & Huberman, 1994). This helped us to generate an elaborated thematic network map that visualizes complex but clear relationships among themes (Attride-Stirling, 2001). Coupled with this thematic network approach, we contextualized data by integrating each theme into individual school profile. In this process, we also utilized observations and memos, including our analytic reflections.

Additionally, several efforts were made to address validity and reliability issues in our qualitative data analysis. First, we tried to check possible factual errors in our interview data by cross-checking with each principal of the selected schools and relevant archival data. Second, we also used our analytic memos in triangulating the interview data. Third, each of us coded the data independently and then checked data coding with a partner. To better ensure coding reliability, inter-rater reliability was checked with randomly selected 10 interview files (78 percent). Fourth, by sharing the transcripts, we also sought feedback from each other, equipped with the multi-cultural perspectives of the project team (i.e., American, Australian, and Korean) all of whom have substantial experience and expertise of educational issues in Asia. This feedback-solicitation process was significantly important for accommodating alternative interpretations of the same transcript, contributing to a better understanding of seemingly discrepant statements. Finally, all data were then analyzed using the NVivo program (NVivo 8), qualitative data analysis software. Additionally, Netminer 3, social network analysis software, was utilized for visualizing the thematic network and identifying the degree to which each theme plays a central role in the thematic network.
Table 2-4. A list of codes based on both quantitative and qualitative data

<table>
<thead>
<tr>
<th>School Context (12)</th>
<th>School Culture (8)</th>
<th>Leadership &amp; Management (8)</th>
<th>Program Transition (24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal organizational structure</td>
<td>Interaction among staff</td>
<td>Administration</td>
<td>Articulation</td>
</tr>
<tr>
<td>Language issue</td>
<td>Interaction among students</td>
<td>Challenges</td>
<td>Backwards mapping</td>
</tr>
<tr>
<td>Local contexts</td>
<td>Learning community</td>
<td>Changes</td>
<td>Common language</td>
</tr>
<tr>
<td>Parent education</td>
<td>Learning culture</td>
<td>Hiring</td>
<td>Cross-program experience</td>
</tr>
<tr>
<td>Parent involvement</td>
<td>Professional development</td>
<td>Leadership</td>
<td>Cross-program involvement</td>
</tr>
<tr>
<td>Parent meeting</td>
<td>Professionalism</td>
<td>Multiple positioning</td>
<td>Cross-program teaching</td>
</tr>
<tr>
<td>School history</td>
<td>Teacher autonomy</td>
<td>Resource allocation</td>
<td>DP characteristics</td>
</tr>
<tr>
<td>School size</td>
<td>Teacher collaboration</td>
<td>Strategic policy</td>
<td>Events for transition</td>
</tr>
<tr>
<td>Staff nationality composition</td>
<td></td>
<td></td>
<td>IB requirements</td>
</tr>
<tr>
<td>Student ethnic composition</td>
<td></td>
<td></td>
<td>Interpretation of IB</td>
</tr>
<tr>
<td>Timetable</td>
<td></td>
<td></td>
<td>Inquiry-based learning</td>
</tr>
<tr>
<td>University</td>
<td></td>
<td></td>
<td>Learner profile</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MYP characteristics</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Non-IB to IB</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pastoral transition</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Program consistency</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Program differences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Program similarity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skill</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Social transition</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Support for student</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Trans-disciplinary approach</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Transition (MYP-DP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Transition (PYP-MYP)</td>
</tr>
</tbody>
</table>
3. A SUMMARY OF KEY FINDINGS FROM THE IB SURVEY

3-1. Learning culture

Key Findings

- DP turned out to have a more test-oriented learning culture than MYP.
- MYP coordinators were more critical of DP’s test-oriented learning culture.
- MYP in FCS seemed less test-oriented in MYP in PCS. At the same time, however, DP in FCS seemed less inquiry-based in DP in PCS.
- Different teaching practices were used in MYP compared with DP; the predominant inquiry-oriented learning practices used in MYP were viewed as “desirable” by a majority of both MYP and DP coordinators.

3-1-1. Different learning cultures in MYP and DP

The survey data suggest that different learning cultures tended to be embedded in different programs. Figure 3-1 below presents the IB coordinators’ characterization of learning culture in their MYP and DP programs.
Figure 3-1. Characterization of learning cultures by IB programs

Note. N=235, multiple responses.

The information above shows one distinctive pattern. The learning culture of DP seems to be perceived by the IB Coordinators more test-oriented than that of MYP. That is, the 235 IB coordinators tended to view that learning culture embedded in DP emphasizes

1. exam preparation,
2. subject content, and
3. test/assessment.

Conversely, learning culture in MYP was viewed as placing a greater emphasis on

1. learning by doing,
2. student inquiry, and
3. holistic learning.

This finding leads us to raise questions why there are such distinctive learning cultures between MYP and DP and how these different learning cultures are associated with the MYP-DP transition. Although it would have been useful to be able to link these differences in learning approaches to program outcomes, the design of the survey did not allow for this. Our qualitative data analysis, however, explored these questions with a close-up lens from the perspective of multiple stakeholders (i.e., teachers, coordinators, administrators, students).

Overall, the 235 coordinators – regardless of their position (i.e. either MYP or DP coordinators) – characterized their schools’ MYP and DP learning culture as described in Figure 3-1. However, while MYP and DP coordinators shared similar perceptions of their schools’ learning culture, there were also several significantly different perceptions of the learning culture embedded in the different IB programs as expressed by the MYP and DP coordinators.

First, while a majority of the MYP (88.3%) and DP coordinators (97.4%) viewed that there is no particular emphasis on exam preparation in MYP, MYP coordinators were 5.0 times more (odds ratio) likely than DP coordinators to indicate that there is no emphasis on exam preparation in MYP: $\chi^2 (1) = 4.99, p = .039$.

Second, while only a few MYP (4.8%) and DP coordinators (17.6%) viewed that there is no emphasis on student inquiry in MYP, DP coordinators were more likely to indicate that there is no emphasis on student inquiry in MYP: $\chi^2 (1) = 8.15, p = .005$.

Third, while a majority of the MYP coordinators (61.5%) viewed DP as not emphasizing student inquiry, only 37.6% of the DP coordinators viewed that there is no emphasis on student inquiry in DP: $\chi^2 (1) = 10.68, p = .001$. Specifically, MYP coordinators are 2.67 times more likely than DP coordinators to view DP as not emphasizing student inquiry. In this sense, MYP coordinators seem to be more critical of DP’s lack of emphasis on student inquiry.
Finally, while a majority of the MYP (79.3%) and DP coordinators (63.4%) viewed that there is no emphasis on holistic learning in DP, MYP coordinators were 2.22 times more likely than DP coordinators to agree that there is no emphasis on holistic learning in DP: $\chi^2(1) = 5.44, p = .028$. Again, MYP coordinators were more critical of DP’s lack of emphasis on holistic learning.

In sum, there are some nuanced discrepancies between MYP and DP coordinators views of each other’s program. MYP coordinators tended to be more critical of DP’s lack of emphasis on student inquiry and holistic learning whereas DP coordinators seemed to be less critical of this point; indeed we note from our initial qualitative data collection one DP instructor who claimed that content focus was a strength of DP. These findings guided us to further look at possible differences in views between MYP and DP coordinators and teachers in our case study schools.

3-1-2. Nuanced differences of learning cultures between PCS and FCS

Although the coordinators regardless of their school status (i.e. either PCS or FCS) characterized their schools’ MYP and DP learning culture as presented above in Figure 3-1. However, there were several significantly different perceptions of learning culture between the coordinators from PCS and FCS.

First, while a minority of the coordinators from PCS (18.0%) and FCS coordinators (3.9%) indicated that there is no emphasis on student inquiry in MYP, coordinators from PCS were more likely (5.48 times) than coordinators from FCS to indicate that there is no emphasis on student inquiry in MYP: $\chi^2(1) = 10.16, p = .002$.

Second, while 50.7% of the coordinators from PCS and 68.6% of the coordinators from FCS indicated that there is no emphasis on test/assessment in MYP, the coordinators from FCS were more likely than the coordinators from PCS to agree with the statement: $\chi^2(1) = 5.22, p = .033$.

Third, however, while 40.4% of coordinators from PCS and 59.2% of coordinators from FCS indicated that there is no emphasis on student inquiry in DP, coordinators from FCS were more likely than coordinators from PCS to indicate that there is no emphasis on student inquiry in DP: $\chi^2(1) = 6.73, p = .014$.

In sum, the first two findings suggest that MYP in FCS seemed less test-oriented in MYP in PCS. At the same time, however, the third finding suggests that DP in FCS seemed less student-inquiry-based than DP in PCS. This suggests that different implementation status of IB programs (full vs. partial) may be associated with shaping each program’s learning cultures. Since our following qualitative case studies focused solely on FCS, we could not explore this point further. Nonetheless, we attended to exploring perceptions of test orientation and inquiry orientation across programs in the case schools (see Chapter 4).
3-1-3. Different learning culture by programs and its relation to teaching practices

The program differences (and thereby difference in learning cultures) noted above seem to be associated with teaching practice. Specifically, 78.3% of the MYP coordinators and 58.6% of the DP coordinators agreed with the statement that MYP leads to “greater differences in teaching practice when compared with DP.” In particular, MYP coordinators were more likely to agree with the statement: $\chi^2 (1) = 9.96, p = .002$. An odds ratio indicates that MYP coordinators were 2.57 times more likely than DP coordinators to agree with the above statement.

In a similar vein, a majority of both PCS (68.9%) and FCS (71.4%) coordinators also viewed the MYP as leading to greater differences in teaching practice. Additionally, 77.9% of the PCS coordinators and 81.3% of the FCS coordinators who noted such different teaching practice in MYP viewed it as “desirable.”

In summary, teaching practices used in MYP were viewed as resulting in greater differences compared with teaching practice in DP. This suggests that the differences between MYP and DP in teaching practices may be associated with the program construction and possibly with the process of the MYP-DP transition, the subject of investigation in the case studies.

3-2. MYP-DP transition: Challenges and changes

**Key Findings**

- There were no statistically significant patterns among IB coordinators’ evaluation of the transition in their schools.
- Most of the IB coordinators indicated “good” or “satisfactory” of the transition in their schools.
- IB coordinators from PCS tended to indicate somewhat lower evaluations of the transition.
- Common challenges related to transition were perceived by both PCS and FCS coordinators, i.e. 1) dealing with detailed and prescribed content in DP and 2) needing a change in student attitude to learning.
- The PCS or FCS coordinators perceived different challenges as being more or less serious (see Section below).
- There were common changes needed for improving the transition that were perceived by both PCS and FCS coordinators: 1) Increased emphasis on interdisciplinary learning in the DP; 2) Access to a wider range of assessment tools in
the DP; and 3) Greater MYP program recognition (with governments and universities).

- At the same time, PCS or FCS coordinators emphasized different changes needed in the programs and program transition (see Section below).

3-2-1. No significant overall differences in the evaluation of the MYP-DP transition across the IB coordinators

As we identified different learning cultures in IB programs, we also examined certain patterns of the coordinators’ perceptions regarding MYP-DP transition in order to find linkages between different learning culture and MYP-DP transition. We first conducted a 2 by 2 chi-square test (i.e. PCS/FCS by perceptions of MYP-DP transition having 5 strata) coupled with a MYP/DP status as a layer variable (i.e. control variable). The result showed that the highest-order interaction (i.e. PCS/FCS x MYP-DP transition x MYP/DP) was not significant; as such, instead of conducting a loglinear analysis, we investigated lower-order interactions: 1) PCS/FCS by MYP-DP transition; and 2) MYP/DP coordinator by perceptions of MYP-DP transition. We used Mantel-Haenszel Chi-square statistics since their association is nominal by ordinal.

As illustrated in Table 3-1, there was no significant difference between PCS and FCS coordinators in terms of their overall evaluation of whether the MYP-DP transition has been successful in their schools. Likewise there was no significant difference between MYP and DP coordinators in terms of their overall responses to MYP-DP transition.\(^\text{10}\)

<table>
<thead>
<tr>
<th>Type of Coordinators</th>
<th>Excellent</th>
<th>Good</th>
<th>Satisfactory</th>
<th>Needs improvement</th>
<th>No connection</th>
<th>M-H test</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCS</td>
<td>8 (7.3)</td>
<td>35 (32.1)</td>
<td>25 (22.9)</td>
<td>36 (33.0)</td>
<td>5 (4.6)</td>
<td>(p=.139^a)</td>
</tr>
<tr>
<td>FCS</td>
<td>6 (4.8)</td>
<td>49 (38.9)</td>
<td>45 (35.7)</td>
<td>21 (16.7)</td>
<td>5 (4.0)</td>
<td></td>
</tr>
<tr>
<td>MYP</td>
<td>9 (7.2)</td>
<td>48 (38.4)</td>
<td>42 (33.6)</td>
<td>20 (16.0)</td>
<td>6 (4.8)</td>
<td>(p=.151^b)</td>
</tr>
<tr>
<td>DP</td>
<td>5 (4.8)</td>
<td>36 (34.6)</td>
<td>27 (26.0)</td>
<td>35 (33.7)</td>
<td>1 (1.0)</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) 1 cell (10%) has expected count less than 5.

\(^b\) 2 cells (20%) have expected count less than 5, suggesting a loss of statistical power.

Although there were no significantly different overall ‘trends’ among MYP/DP coordinators’ evaluations of the transition in their schools, a few individual categories need

\(^\text{10}\) While we used SPSS 15 for statistical analyses in this report, we also employed SAS for conducting Mantel-Haenszel Chi-square tests because SPSS has some limitations in doing this.
to be mentioned. Most of the coordinators indicated “good” or “satisfactory” regarding transition in their schools. Additionally, coordinators from FCS were more likely than their counterparts from PCS to indicate that the transition has been satisfactory: \( \chi^2 (1) = 4.56, \ p = .045 \). Conversely, coordinators from PCS were 2.46 times more likely than their counterparts from FSC to indicate that the transition needs improvement: \( \chi^2 (1) = 8.51, \ p = .004 \). In sum, coordinators from PCS tended to indicate lower evaluations of the transition. It could be that FCS are prompted to adopt a more whole school orientation towards IB implementation and therefore pay more attention to cross program linkages (This will be discussed later in Chapter 4).

3-2-2. Challenges with respect to MYP-DP transition

Table 3-2 provides more detailed information regarding IB coordinators’ perceptions of challenges related to the MYP-DP transition. “Dealing with detailed and prescribed content in DP” was the most frequently mentioned challenge related to the transition by coordinators from both PCS and FCS. “Change in student attitude to learning” was the second most frequently identified challenge.

While IB coordinators had similar perceptions of challenges related to the transition, there were also several significant group differences between PCS coordinators and FCS coordinators. First, 50.4% of the coordinators from FCS indicated “reduction in variety of assessment types” as a relevant challenge whereas 28.1% of the coordinators from PCS agreed with this. Rather, 57.3% of the coordinators from PCS viewed this challenge as neither relevant nor irrelevant: \( \chi^2 (1) = 7.07, \ p = .0078 \).

Second, a majority of the coordinators from FCS (57.6%) indicated “smaller range of teaching methodologies used in DP” as a relevant challenge whereas 28.9% of the coordinators from PCS agreed with this. Rather, 50.5% of the coordinators from PCS viewed this challenge as neither relevant nor irrelevant: \( \chi^2 (1) = 11.2, \ p = .0008 \).

Third, a majority of the coordinators from PCS (52.6%) indicated that “transition problems are school-based” whereas only 25% of the coordinators from FCS agreed with this. Rather, 41.7% of the coordinators from FCS disagreed with this: \( \chi^2 (1) = 23.1, \ p < .0001 \).

The remaining questions concern why some challenges are commonly perceived by coordinators from both PCS and FCS and why other challenges are more seriously perceived by either PCS or FCS coordinators. The case studies will focus in-depth on these transition issues in FCS.
Table 3-2. PCS vs. FCS coordinators: MYP/DP transition challenges

<table>
<thead>
<tr>
<th>Challenges identified from transition</th>
<th>Type of coordinators</th>
<th>Relevant</th>
<th>Neither relevant nor irrelevant</th>
<th>Irrelevant</th>
<th>Mantel-Haenszel Chi-square test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in variety of assessment types</td>
<td>PCS</td>
<td>27 (28.1)</td>
<td>55 (57.3)</td>
<td>14 (14.6)</td>
<td>$\chi^2 (1) = 7.07, p = .0078$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>59 (50.4)</td>
<td>44 (37.6)</td>
<td>14 (12.0)</td>
<td></td>
</tr>
<tr>
<td>Smaller range of teaching methodologies used in DP</td>
<td>PCS</td>
<td>28 (28.9)</td>
<td>49 (50.5)</td>
<td>20 (20.6)</td>
<td>$\chi^2 (1) = 11.2, p = .0008$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>68 (57.6)</td>
<td>32 (27.1)</td>
<td>18 (15.3)</td>
<td></td>
</tr>
<tr>
<td>Dealing with detailed and prescribed content in DP</td>
<td>PCS</td>
<td>68 (68.0)</td>
<td>23 (23.0)</td>
<td>9 (9.0)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>84 (70.6)</td>
<td>22 (18.5)</td>
<td>13 (10.9)</td>
<td></td>
</tr>
<tr>
<td>Decreased emphasis on skill development in DP</td>
<td>PCS</td>
<td>33 (34.0)</td>
<td>49 (50.5)</td>
<td>15 (15.5)</td>
<td>$\chi^2 (1) = 1.65, p = .1986$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>58 (49.2)</td>
<td>39 (33.1)</td>
<td>21 (17.8)</td>
<td></td>
</tr>
<tr>
<td>Discontinuing holistic development of students</td>
<td>PCS</td>
<td>32 (32.3)</td>
<td>47 (47.5)</td>
<td>20 (20.2)</td>
<td>$\chi^2 (1) = .842, p = .3586$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>50 (43.1)</td>
<td>41 (35.3)</td>
<td>25 (21.6)</td>
<td></td>
</tr>
<tr>
<td>Difficulty in identifying through-lines (e.g. ATL/human ingenuity to T of K)</td>
<td>PCS</td>
<td>37 (38.1)</td>
<td>41 (42.3)</td>
<td>19 (19.6)</td>
<td>$\chi^2 (1) = .029, p = .8642$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>50 (42.4)</td>
<td>42 (35.6)</td>
<td>26 (22.0)</td>
<td></td>
</tr>
<tr>
<td>Adapting to fewer subjects in DP</td>
<td>PCS</td>
<td>19 (19.6)</td>
<td>49 (50.5)</td>
<td>29 (29.9)</td>
<td>$\chi^2 (1) = 6.94, p = .0084$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>9 (8.0)</td>
<td>55 (49.1)</td>
<td>48 (42.9)</td>
<td></td>
</tr>
<tr>
<td>Change in student attitude to learning</td>
<td>PCS</td>
<td>52 (54.2)</td>
<td>28 (29.2)</td>
<td>16 (16.7)</td>
<td>$\chi^2 (1) = .483, p = .4867$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>56 (49.6)</td>
<td>35 (31.0)</td>
<td>22 (19.5)</td>
<td></td>
</tr>
<tr>
<td>Transition problems lie with program design (MYP)</td>
<td>PCS</td>
<td>40 (41.7)</td>
<td>42 (43.8)</td>
<td>14 (14.6)</td>
<td>$\chi^2 (1) = .047, p = .8284$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>57 (49.1)</td>
<td>36 (31.0)</td>
<td>23 (19.8)</td>
<td></td>
</tr>
<tr>
<td>Transition problems lie with program design (DP)</td>
<td>PCS</td>
<td>25 (26.3)</td>
<td>44 (46.3)</td>
<td>26 (27.4)</td>
<td>$\chi^2 (1) = 3.38, p = .0659$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>51 (43.6)</td>
<td>37 (31.6)</td>
<td>29 (24.8)</td>
<td></td>
</tr>
<tr>
<td>Transition problems are school-based</td>
<td>PCS</td>
<td>51 (52.6)</td>
<td>32 (33.3)</td>
<td>14 (14.4)</td>
<td>$\chi^2 (1) = 23.1, p &lt; .0001$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>27 (25.0)</td>
<td>36 (33.3)</td>
<td>45 (41.7)</td>
<td></td>
</tr>
</tbody>
</table>
3-2-3. Changes needed for improving MYP-DP transition

As presented in Table 3-3, more than 80% of the coordinators indicated that they need the following changes for improving the MYP-DP transition:

- Published MYP vertical and horizontal articulation documents
- IB published articulation documentation
- Harmonizing terminology between programs

More than 70% (and less than 80%) of the coordinators indicated that they need the following changes for improving the MYP-DP transition:

- More teacher support and guidance for MYP
- Greater MYP program recognition (with governments and universities)
- Greater DP program recognition (with governments and universities)

More than 60% (and less than 70%) of the coordinators indicated that they need the following changes for improving the MYP-DP transition:

- Standardized internal MYP assessment tasks
- Access to a wider range of assessment tools in the DP
- Increased emphasis on interdisciplinary learning in the DP

More than 50% (and less than 60%) of the coordinators indicated that they need the following changes for improving the MYP-DP transition:

- Increased emphasis on pedagogy in the DP
- More teacher support and guidance for DP
- Prescribed MYP content syllabus
### Table 3-3. Changes needed for improving MYP-DP transition

<table>
<thead>
<tr>
<th>Change</th>
<th>Important</th>
<th>Neither important nor unimportant</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Published MYP vertical and horizontal articulation documents</td>
<td>87.1%</td>
<td>9.9%</td>
<td>3.0%</td>
</tr>
<tr>
<td>IB published articulation documentation</td>
<td>81.1%</td>
<td>18.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Harmonizing terminology between programs</td>
<td>80.1%</td>
<td>16.4%</td>
<td>3.5%</td>
</tr>
<tr>
<td>More teacher support and guidance for MYP</td>
<td>77.8%</td>
<td>21.3%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Greater MYP program recognition (with governments and universities)</td>
<td>75.8%</td>
<td>17.5%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Greater DP program recognition (with governments and universities)</td>
<td>75.5%</td>
<td>19.1%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Standardized internal MYP assessment tasks</td>
<td>67.1%</td>
<td>19.8%</td>
<td>13.1%</td>
</tr>
<tr>
<td>Access to a wider range of assessment tools in the DP</td>
<td>64.5%</td>
<td>28.1%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Increased emphasis on interdisciplinary learning in the DP</td>
<td>61.0%</td>
<td>29.1%</td>
<td>9.9%</td>
</tr>
<tr>
<td>Increased emphasis on pedagogy in the DP</td>
<td>56.8%</td>
<td>36.4%</td>
<td>6.8%</td>
</tr>
<tr>
<td>More teacher support and guidance for DP</td>
<td>55.8%</td>
<td>38.1%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Prescribed MYP content syllabus</td>
<td>53.6%</td>
<td>23.2%</td>
<td>23.2%</td>
</tr>
<tr>
<td>Other</td>
<td>50.0%</td>
<td>23.7%</td>
<td>26.3%</td>
</tr>
<tr>
<td>MYP personal project and DP extended essay made more similar</td>
<td>46.9%</td>
<td>27.7%</td>
<td>25.4%</td>
</tr>
<tr>
<td>Less content in the DP</td>
<td>31.0%</td>
<td>42.1%</td>
<td>26.9%</td>
</tr>
<tr>
<td>External MYP exams</td>
<td>30.3%</td>
<td>25.8%</td>
<td>43.9%</td>
</tr>
<tr>
<td>Changed MYP fee structure</td>
<td>23.2%</td>
<td>47.3%</td>
<td>29.5%</td>
</tr>
</tbody>
</table>
Tables 3-4 and 3-5 further illustrate that coordinators from both PCS and FCS showed very similar perspectives of changes needed for improving MYP-DP transition (12 out of 17 question items) and their response patterns were particularly similar in the following areas:

- Increased emphasis on interdisciplinary learning in the DP
- Access to a wider range of assessment tools in the DP
- Greater MYP program recognition (with governments and universities)

At the same time, however, Table 3-4 presents that there were several significant group differences between PCS and FCS coordinators in the following areas:

- Prescribed MYP content syllabus
- Increased emphasis on pedagogy in the DP
- Greater DP program recognition (with governments and universities)
- External MYP exams
- MYP personal project and DP extended essay made more similar

Specifically, PCS coordinators were more likely than FCS coordinators to view “prescribed MYP content syllabus” as “important” changes needed. Conversely, FCS coordinators were more likely than PCS coordinators to view it as “unimportant” changes needed. PCS coordinators were more likely than FCS coordinators to view “greater DP program recognition (with governments and universities)” as “important” changes needed. Conversely, FCS coordinators were more likely than PCS coordinators to view it as “unimportant” changes needed. PCS coordinators were more likely than FCS coordinators to view “MYP personal project and DP extended essay made more similar” as “important” changes needed. Conversely, FCS coordinators were more likely than PCS coordinators to view it as “unimportant” changes needed.

Additionally, FCS coordinators were more likely than PCS coordinators to view “increased emphasis on pedagogy in the DP” as “important” changes needed. Conversely, PCS coordinators were more likely than PCS coordinators to view it as “neither important nor important.” FCS coordinators were more likely than PCS coordinators to view “External MYP exams” as “unimportant” changes needed.

In summary, the results suggest that PCS and FCS coordinators perceived several common changes to improve the transition. At the same time, there were particular changes that are more strongly emphasized by either PCS or FCS coordinators.
Table 3-4. Changes needed for improving MYP-DP transition (chi-square tests)

<table>
<thead>
<tr>
<th>Changes needed</th>
<th>Type of coordinators</th>
<th>Important</th>
<th>Neither important nor important</th>
<th>Unimportant</th>
<th>Mantel-Haenszel chi-square test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Published MYP vertical and horizontal articulation documents</td>
<td>PCS</td>
<td>98 (90.7)</td>
<td>5 (4.6)</td>
<td>5 (4.6)</td>
<td>$\chi^2(1) = .438, p = .5076^a$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>104 (83.9)</td>
<td>18 (14.5)</td>
<td>2 (1.6)</td>
<td></td>
</tr>
<tr>
<td>Prescribed MYP content syllabus</td>
<td>PCS</td>
<td>65 (63.1)</td>
<td>19 (18.4)</td>
<td>19 (18.4)</td>
<td>$\chi^2(1) = 5.76, p = .0164$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>53 (45.3)</td>
<td>32 (27.4)</td>
<td>32 (27.4)</td>
<td></td>
</tr>
<tr>
<td>Standardized internal MYP assessment tasks</td>
<td>PCS</td>
<td>78 (74.3)</td>
<td>14 (13.3)</td>
<td>13 (12.4)</td>
<td>$\chi^2(1) = 2.39, p = .1214$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>71 (60.7)</td>
<td>30 (25.6)</td>
<td>16 (13.7)</td>
<td></td>
</tr>
<tr>
<td>IB published articulation documentation</td>
<td>PCS</td>
<td>81 (77.9)</td>
<td>21 (20.2)</td>
<td>2 (1.9)</td>
<td>$\chi^2(1) = 1.95, p = .1616^a$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>99 (83.9)</td>
<td>19 (16.1)</td>
<td>0 (0.0)</td>
<td></td>
</tr>
<tr>
<td>Changed MYP fee structure</td>
<td>PCS</td>
<td>28 (29.2)</td>
<td>42 (43.8)</td>
<td>26 (27.1)</td>
<td>$\chi^2(1) = 2.38, p = .1225$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>20 (18.0)</td>
<td>56 (50.5)</td>
<td>35 (31.5)</td>
<td></td>
</tr>
<tr>
<td>More teacher support and guidance for MYP</td>
<td>PCS</td>
<td>75 (73.5)</td>
<td>25 (24.5)</td>
<td>2 (2.0)</td>
<td>$\chi^2(1) = 2.76, p = .0964^a$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>97 (81.5)</td>
<td>22 (18.5)</td>
<td>0 (0)</td>
<td></td>
</tr>
<tr>
<td>More teacher support and guidance for DP</td>
<td>PCS</td>
<td>49 (50.5)</td>
<td>41 (42.3)</td>
<td>7 (7.2)</td>
<td>$\chi^2(1) = 1.98 p = .1589$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>71 (60.2)</td>
<td>41 (34.7)</td>
<td>6 (5.1)</td>
<td></td>
</tr>
<tr>
<td>Increased emphasis on interdisciplinary learning in the DP</td>
<td>PCS</td>
<td>63 (61.2)</td>
<td>28 (27.2)</td>
<td>12 (11.7)</td>
<td>$\chi^2(1) = .110, p = .7402$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>73 (60.8)</td>
<td>37 (30.8)</td>
<td>10 (8.3)</td>
<td></td>
</tr>
<tr>
<td>Increased emphasis on pedagogy in the DP</td>
<td>PCS</td>
<td>44 (44.0)</td>
<td>48 (48.0)</td>
<td>8 (8.0)</td>
<td>$\chi^2(1) = 9.25 p = .0023$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>81 (67.5)</td>
<td>32 (26.7)</td>
<td>7 (5.8)</td>
<td></td>
</tr>
<tr>
<td>Harmonizing terminology between programs</td>
<td>PCS</td>
<td>78 (74.3)</td>
<td>22 (21.0)</td>
<td>5 (4.8)</td>
<td>$\chi^2(1) = 3.84, p = .0498^a$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>103 (85.1)</td>
<td>15 (12.4)</td>
<td>3 (2.5)</td>
<td></td>
</tr>
<tr>
<td>Less content in the DP</td>
<td>PCS</td>
<td>25 (25.5)</td>
<td>45 (45.9)</td>
<td>28 (28.6)</td>
<td>$\chi^2(1) = 1.61, p = .2035$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>42 (35.6)</td>
<td>46 (39.0)</td>
<td>30 (25.4)</td>
<td></td>
</tr>
</tbody>
</table>

* 2 cells (33%) have expected count less than 5, resulting in a loss of statistical power.
<table>
<thead>
<tr>
<th>Changes needed</th>
<th>Type of coordinators</th>
<th>Important</th>
<th>Neither important nor important</th>
<th>Unimportant</th>
<th>Mantel-Haenszel chi-square test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater MYP program recognition (with governments and universities)</td>
<td>PCS</td>
<td>79 (76.0)</td>
<td>20 (19.2)</td>
<td>5 (4.8)</td>
<td>$\chi^2(1) = 0.24, p = 0.6208$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>90 (75.6)</td>
<td>19 (16.0)</td>
<td>10 (8.4)</td>
<td></td>
</tr>
<tr>
<td>Greater DP program recognition (with governments and universities)</td>
<td>PCS</td>
<td>84 (82.4)</td>
<td>15 (14.7)</td>
<td>3 (2.9)</td>
<td>$\chi^2(1) = 5.25, p = 0.0219$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>82 (69.5)</td>
<td>27 (22.9)</td>
<td>9 (7.6)</td>
<td></td>
</tr>
<tr>
<td>Access to a wider range of assessment tools in the DP</td>
<td>PCS</td>
<td>60 (60.6)</td>
<td>31 (31.3)</td>
<td>8 (8.1)</td>
<td>$\chi^2(1) = 0.98, p = 0.3210$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>80 (67.8)</td>
<td>30 (25.4)</td>
<td>8 (6.8)</td>
<td></td>
</tr>
<tr>
<td>External MYP exams</td>
<td>PCS</td>
<td>35 (34.7)</td>
<td>31 (30.7)</td>
<td>35 (34.7)</td>
<td>$\chi^2(1) = 4.71, p = 0.0299$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>32 (26.7)</td>
<td>26 (21.7)</td>
<td>62 (51.7)</td>
<td></td>
</tr>
<tr>
<td>MYP personal project and DP extended essay made more similar</td>
<td>PCS</td>
<td>56 (55.4)</td>
<td>25 (24.8)</td>
<td>20 (19.8)</td>
<td>$\chi^2(1) = 5.46, p = 0.0194$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>49 (39.8)</td>
<td>37 (30.1)</td>
<td>37 (30.1)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>PCS</td>
<td>7 (36.8)</td>
<td>5 (26.3)</td>
<td>7 (36.8)</td>
<td>$\chi^2(1) = 2.08, p = 0.1484^a$</td>
</tr>
<tr>
<td></td>
<td>FCS</td>
<td>12 (63.2)</td>
<td>4 (21.1)</td>
<td>4 (26.3)</td>
<td></td>
</tr>
</tbody>
</table>

$^a$ 2 cells (33%) have expected count less than 5, resulting in a loss of statistical power.
3-3. Leadership and management practices associated with the “successful” transition

Key Findings

- Several leadership and management practices were associated with successful transition:
  - The presence of school leadership across programs
  - Teachers teaching both of the programs (i.e. MYP and DP)
  - Development of subject vertical and horizontal articulation documents
  - Meetings/collaboration between teachers of each program
  - Meetings/collaboration between MYP and DP coordinators

We utilized Question #19 (How is the transition from MYP to DP managed in your school?) and Question #15 (How would you characterize the transition from MYP to DP at your school?) in order to identify success factors. Before going further, let us briefly summarize 8 management practices that are most frequently indicated by coordinators:

- 83.9% of the coordinators indicated that there are meetings/collaboration between MYP and DP coordinators for managing the MYP-DP transition.
- 82.5% of the coordinators indicated that teachers teach in both programs for managing the MYP-DP transition.
- 71.9% of the coordinators indicated that school leadership goes across programs for managing the MYP-DP transition.
- 68.7% of the coordinators indicated that there are meetings/collaboration between teachers of each program for managing the transition.
- 59.0% of the coordinators indicated that practices and structures have been informed by IB self-study process in both MYP and DP for managing the transition.
- 57.1% of the coordinators indicated the development of subject vertical and horizontal articulation documents from age 11 to age 18 as a management tool for the IB transition.
- 52.5% of the coordinators indicated that backwards mapping of curriculum has been done for managing the transition.
- 51.6% of the coordinators indicated that a continuum of pedagogy has been developed for managing the transition.

Among the types of leadership and management described above, several leadership and management types were positively associated with the level of coordinators’ evaluation on the transition, illustrated in Table 3-6 below.
First, coordinators from schools where leadership goes across programs were more likely to characterize the transition as “excellent or good.” Conversely, they were less likely to characterize the transition as “needing improvement or no connection”: \( \chi^2(1) = 7.26, p = .0070 \).

Second, coordinators from schools where teachers teach in both MYP and DP were more likely to characterize the transition as excellent or good. Conversely, they were less likely to characterize the transition as needing improvement or no connection: \( \chi^2(1) = 5.71, p = .0168 \).

Third, coordinators from schools which develop subject vertical and horizontal articulation documents from age 11 to age 18 were more likely to characterize the transition as excellent or good. Conversely, they were less likely to characterize the transition as needing improvement or no connection: \( \chi^2(1) = 6.12, p = .0133 \).

Fourth, coordinators from schools where there are meetings/collaboration between teachers of each program were more likely to characterize the transition as excellent or good. Conversely, they were less likely to characterize the transition as needing improvement or no connection: \( \chi^2(1) = 14.94, p = .0001 \). This showed the strongest association.

Fifth, coordinators from schools where there are meetings/collaboration between MYP and DP coordinators were more likely to characterize the transition as excellent or good. Conversely, they were less likely to characterize the transition as needing improvement or no connection: \( \chi^2(1) = 7.87, p = .0050 \).

In summary, the following types of management practices for transition were positively associated with the level of coordinators’ evaluations of the transition: the presence of school leadership across programs; teachers teaching both of the programs (i.e. MYP and DP); development of subject vertical and horizontal articulation documents; meetings/collaboration between teachers of each program; and meetings/collaboration between MYP and DP coordinators. Our following qualitative study not only confirms these findings but also elaborates these findings by providing answers for why and how questions such as “how and why do such management types lead the transition to a success?” (See Chapter 4).
Table 3-6. Association between management practices for transition and coordinators’ evaluation on the transition

<table>
<thead>
<tr>
<th>Management practices used for transition</th>
<th>Evaluation</th>
<th>Excellent/Good</th>
<th>Satisfactory</th>
<th>Needs Improvement/No Connection</th>
<th>Mantel-Haenszel chi-square test</th>
</tr>
</thead>
<tbody>
<tr>
<td>School leadership across programs</td>
<td>No</td>
<td>17 (26.7)</td>
<td>22 (36.1)</td>
<td>22 (36.1)</td>
<td>$\chi^2 (1) = 7.26, p = .0070$</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>78 (50.0)</td>
<td>40 (25.6)</td>
<td>38 (24.4)</td>
<td></td>
</tr>
<tr>
<td>Teachers teaching both programs</td>
<td>No</td>
<td>11 (28.9)</td>
<td>11 (28.9)</td>
<td>16 (42.1)</td>
<td>$\chi^2 (1) = 5.71, p = .0168$</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>84 (46.9)</td>
<td>51 (28.5)</td>
<td>44 (24.6)</td>
<td></td>
</tr>
<tr>
<td>Develop subject vertical and horizontal articulation documents</td>
<td>No</td>
<td>33 (35.5)</td>
<td>27 (29.0)</td>
<td>33 (35.5)</td>
<td>$\chi^2 (1) = 6.12, p = .0133$</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>62 (50.0)</td>
<td>35 (28.2)</td>
<td>27 (21.8)</td>
<td></td>
</tr>
<tr>
<td>Meetings/collaboration between teachers of each program</td>
<td>No</td>
<td>18 (26.5)</td>
<td>21 (30.9)</td>
<td>29 (42.6)</td>
<td>$\chi^2 (1) = 14.94, p = .0001$</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>77 (51.7)</td>
<td>41 (27.5)</td>
<td>31 (20.8)</td>
<td></td>
</tr>
<tr>
<td>Meetings/collaboration between MYP and DP coordinators</td>
<td>No</td>
<td>8 (22.9)</td>
<td>12 (34.3)</td>
<td>15 (42.9)</td>
<td>$\chi^2 (1) = 7.87, p = .0050$</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>87 (47.8)</td>
<td>50 (27.5)</td>
<td>45 (24.7)</td>
<td></td>
</tr>
</tbody>
</table>
3-4. Monitoring and assessment

Key Findings

- There were no distinguished patterns for monitoring and assessment used for both MYP and DP students’ progress and performance. The ways of monitoring and assessing both MYP and DP students’ progress and performance were similar.
- In particular, the following four tools were most frequently used for monitoring and assessing both MYP and DP students’ progress and performance:
  - Range of ongoing summative and formative assessment tasks
  - Teacher meetings to discuss students
  - Parents/teacher conferences
  - Written reports to parents at least twice per year.
- However, FCS were more likely than PCS to utilize than 1) written reports; 2) parents/teacher/students conferences; and 3) school leadership teams for monitoring and assessing both MYP and DP students’ performance.

3-4-1. The overall patterns of monitoring and assessment

There were no distinguished patterns for monitoring and assessment for both MYP and DP students’ progress and performance as seen in Tables 3-7 and 3-8. Two minor differences were that 1) portfolios were more frequently used for MYP students (55.7%) than DP students (25.9%) and 2) school based grading of Approaches to Learning (ATL) general skills was more frequently used for MYP students (44.3%) than DP students (25.9%).

<table>
<thead>
<tr>
<th>Types of monitoring and assessment</th>
<th>Frequency of responses from coordinators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of ongoing summative and formative assessment tasks</td>
<td>88.6%</td>
</tr>
<tr>
<td>Teacher meetings to discuss students</td>
<td>76.7%</td>
</tr>
<tr>
<td>Parents/teacher conferences</td>
<td>74.8%</td>
</tr>
<tr>
<td>Written reports to parents at least twice per year</td>
<td>70.5%</td>
</tr>
<tr>
<td>Written reports including subject criteria levels</td>
<td>64.8%</td>
</tr>
<tr>
<td>School leadership teams monitor student performance</td>
<td>61.9%</td>
</tr>
<tr>
<td>Portfolios</td>
<td>55.7%</td>
</tr>
</tbody>
</table>
Table 3-8. Monitoring and assessment of DP students

<table>
<thead>
<tr>
<th>Types of monitoring and assessment</th>
<th>Frequency of responses from coordinators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of ongoing summative and formative assessment tasks</td>
<td>86.5%</td>
</tr>
<tr>
<td>Teacher meetings to discuss students</td>
<td>80.3%</td>
</tr>
<tr>
<td>Parents/teacher conferences</td>
<td>79.8%</td>
</tr>
<tr>
<td>Written reports to parents at least twice per year</td>
<td>77.7%</td>
</tr>
<tr>
<td>School leadership teams monitor student performance</td>
<td>61.9%</td>
</tr>
<tr>
<td>Parent/teacher/student, or student-led conferences</td>
<td>49.7%</td>
</tr>
<tr>
<td>Written reports including subject criteria levels</td>
<td>47.7%</td>
</tr>
<tr>
<td>Portfolios</td>
<td>25.9%</td>
</tr>
<tr>
<td>School based grading of ATL general skills or similar</td>
<td>25.9%</td>
</tr>
<tr>
<td>Assessments limited to end of reporting period</td>
<td>20.7%</td>
</tr>
</tbody>
</table>

3-4-2. The patterns of monitoring and assessment by PCS and FCS

We further examined whether there are different patterns of monitoring and assessment by PCS and FCS. First, we took a closer look at MYP monitoring and assessment in both PCS and FCS. Table 3-9 shows a series of comparisons by PCS and FCS. Findings show that PCS coordinators were less likely than FCS coordinators to indicate that their schools use the following monitoring and assessment tools for MYP students’ process and performance:

- Written reports
- School based grading
- Ongoing summative and formative assessment tasks
- Parents/teacher/students conferences
- Teacher meetings
- School leadership teams

For example, PCS coordinators were less likely (.056 times, see the odds ratio) than FCS coordinators to indicate that their schools use “written reports to parents at least twice per year” to monitor and assess MYP students’ process and performance.

One exception was “assessments limited to end of reporting period.” PCS coordinators were 5.2 times more likely than FCS coordinators to indicate that this tool is
used for monitoring and assessing MYP students in their schools.

Table 3-9. Monitoring and assessment tools for MYP students: PCS vs. FCS

<table>
<thead>
<tr>
<th>Types of monitoring/assessment</th>
<th>Y/N</th>
<th>PCS</th>
<th>FCS</th>
<th>Pearson chi-square statistics</th>
<th>O.R.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolios</td>
<td>Y/N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>55 (55.0)</td>
<td>62 (56.4)</td>
<td>$\chi^2 (1) = .039, p = .890$</td>
<td>.946</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>45 (45.0)</td>
<td>48 (43.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written reports to parents at least twice per year</td>
<td>Yes</td>
<td>45 (45.0)</td>
<td>103 (93.6)</td>
<td>$\chi^2 (1) = 59.55, p = .000$</td>
<td>.056</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>55 (55.0)</td>
<td>7 (6.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written reports including subject criteria levels</td>
<td>Yes</td>
<td>43 (43.0)</td>
<td>93 (84.5)</td>
<td>$\chi^2 (1) = 39.61, p = .000$</td>
<td>.138</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>57 (57.0)</td>
<td>17 (15.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School based grading of ATL general skills or similar</td>
<td>Yes</td>
<td>33 (33.0)</td>
<td>60 (54.5)</td>
<td>$\chi^2 (1) = 9.85, p = .002$</td>
<td>.410</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>67 (67.0)</td>
<td>50 (45.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range of ongoing summative and formative assessment tasks</td>
<td>Yes</td>
<td>81 (81.0)</td>
<td>105 (95.5)</td>
<td>$\chi^2 (1) = 10.81, p = .001$</td>
<td>.203</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>19 (19.0)</td>
<td>5 (4.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessments limited to end of reporting period</td>
<td>Yes</td>
<td>34 (34.0)</td>
<td>10 (9.1)</td>
<td>$\chi^2 (1) = 19.62, p = .000$</td>
<td>5.15</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>66 (66.0)</td>
<td>100 (90.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents/teacher conferences</td>
<td>Yes</td>
<td>65 (65.0)</td>
<td>92 (83.6)</td>
<td>$\chi^2 (1) = 9.64, p = .002$</td>
<td>.363</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>35 (35.0)</td>
<td>18 (16.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent/teacher/student, or student-led conferences</td>
<td>Yes</td>
<td>31 (31.0)</td>
<td>75 (68.2)</td>
<td>$\chi^2 (1) = 28.96, p = .000$</td>
<td>.210</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>69 (69.0)</td>
<td>35 (31.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher meetings to discuss students</td>
<td>Yes</td>
<td>70 (70.0)</td>
<td>91 (82.7)</td>
<td>$\chi^2 (1) = 4.74, p = .034$</td>
<td>.487</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>30 (30.0)</td>
<td>19 (17.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School leadership teams monitor student performance</td>
<td>Yes</td>
<td>45 (45.0)</td>
<td>85 (77.3)</td>
<td>$\chi^2 (1) = 23.13, p = .000$</td>
<td>.241</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>55 (55.0)</td>
<td>25 (22.7)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additionally, we investigated DP monitoring and assessment in both PCS and FCS. A similar pattern as above was identified. As Table 3-10 shows, PCS coordinators were less likely than FCS coordinators to indicate that their schools utilize the following monitoring and assessment tools for DP students’ process and performance:

- Written reports
- Parents/teacher/students conferences,
- School leadership teams

Again, one exception was “assessments limited to end of reporting period” noted above. PCS coordinators were 2.65 times more likely than FCS coordinators to indicate that this tool is used for monitoring and assessing DP students in their schools.

In addition, the same proportion of both PCS and FCS coordinators indicated that their schools utilize the following tools—i.e. there was practically no difference between PCS and FCS in using the following tools:

- Range of ongoing summative and formative assessment tasks
• Parents/teacher conferences.

This is not a surprising result, given that 1) the range of ongoing summative and formative assessment tasks was the most frequently used tool and 2) parents/teacher conferences was the third frequently used tool among their diverse monitoring and assessment tools regardless of the IB continuum status (see Tables 3-7 and 3-8).

Table 3-10. Monitoring and assessment tools for DP students: PCS vs. FCS

<table>
<thead>
<tr>
<th>Types of monitoring/assessment</th>
<th>Y/N</th>
<th>PCS</th>
<th>FCS</th>
<th>Pearson chi-square statistics</th>
<th>O.R.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolios</td>
<td>Yes</td>
<td>25 (28.1)</td>
<td>25 (24.0)</td>
<td>$\chi^2 (1)=.410, p=.621$</td>
<td>1.23</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>64 (71.9)</td>
<td>79 (76.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written reports to parents at least twice per year</td>
<td>Yes</td>
<td>50 (56.2)</td>
<td>100 (96.2)</td>
<td>$\chi^2 (1)=44.25, p=.000$</td>
<td>.051</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>39 (43.8)</td>
<td>4 (3.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written reports including subject criteria levels</td>
<td>Yes</td>
<td>32 (36.0)</td>
<td>60 (57.7)</td>
<td>$\chi^2 (1)=9.08, p=.004$</td>
<td>.412</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>57 (64.0)</td>
<td>44 (42.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School based grading of ATL general skills or similar</td>
<td>Yes</td>
<td>21 (23.6)</td>
<td>29 (27.9)</td>
<td>$\chi^2 (1)=.460, p=.515$</td>
<td>.799</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>68 (76.4)</td>
<td>75 (72.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range of ongoing summative and formative assessment tasks</td>
<td>Yes</td>
<td>77 (86.5)</td>
<td>90 (86.5)</td>
<td>$\chi^2 (1)=0.000, p=1.000$</td>
<td>.998</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>12 (13.5)</td>
<td>14 (13.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessments limited to end of reporting period</td>
<td>Yes</td>
<td>26 (29.2)</td>
<td>14 (13.5)</td>
<td>$\chi^2 (1)=7.24, p=.008$</td>
<td>2.65</td>
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<tr>
<td></td>
<td>No</td>
<td>63 (70.8)</td>
<td>90 (86.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents/teacher conferences</td>
<td>Yes</td>
<td>71 (79.8)</td>
<td>83 (79.8)</td>
<td>$\chi^2 (1)=0.000, p=1.000$</td>
<td>.998</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>18 (20.2)</td>
<td>21 (20.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent/teacher/student, or student-led conferences</td>
<td>Yes</td>
<td>36 (40.4)</td>
<td>60 (57.7)</td>
<td>$\chi^2 (1)=5.70, p=.021$</td>
<td>.498</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>53 (59.6)</td>
<td>44 (42.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher meetings to discuss students</td>
<td>Yes</td>
<td>69 (77.5)</td>
<td>86 (82.7)</td>
<td>$\chi^2 (1)=.809, p=.468$</td>
<td>.722</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>20 (22.5)</td>
<td>18 (17.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School leadership teams monitor student performance</td>
<td>Yes</td>
<td>53 (59.6)</td>
<td>85 (81.7)</td>
<td>$\chi^2 (1)=11.57, p=.001$</td>
<td>.329</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>36 (40.4)</td>
<td>19 (18.4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In summary, the overall patterns for monitoring and assessment for both MYP and DP students’ progress and performance were almost similar. Specifically, the following four tools were most frequently used for monitoring and assessing both MYP and DP students’ progress and performance:

1. range of ongoing summative and formative assessment tasks;
2. teacher meetings to discuss students;
3. parents/teacher conferences; and
4. written reports to parents at least twice per year.

However, FCS tended to utilize 1) written reports; 2) parents/teacher/students conferences; and 3) school leadership teams for monitoring and assessing for both MYP and DP students’
3-5. Regional Differences: Asia-Pacific vs. Others

Key Findings

- While there were many similarities between Asia-Pacific and other regional IB schools, there were also several differences between them in terms of learning culture, monitoring and assessment, and changes needed.
- In particular, the IB schools in the Asia Pacific region seem to have a more test-oriented learning culture and thereby have different changes needed for the transition.
- Specifically, the IB coordinators from the Asia Pacific schools tended to view “less content in DP” as a more important change needed. They were less likely than other IB coordinators to view “external MYP exams” as important. Furthermore, they tended to view that “standardized internal MYP assessment tasks” as change, neither important nor unimportant.
- Reflecting the changes they endorsed for improving the transition, they were less likely to indicate that their DP learning culture places an emphasis on student inquiry.

In many of our analytical results from the transition survey, IB schools in the Asia-Pacific region shared commonalities or similarities with their counterparts in other regions. For example, in evaluating the MYP-DP transition based on the five categories (i.e., excellent, good, satisfactory, needs improvement, and no connection), there was no significant difference between the Asia-Pacific IB coordinators and the other IB coordinators. This is not an unexpected result since IB schools around the world seem to share the same or similar IB curriculum structures, organizational visions, pedagogical priorities, and administrative modus operandi, etc. For this reason, our summary in this section focuses on the specific areas in which there were significant “differences” between IB schools in the Asia-Pacific regions and their counterparts in other regions.

3-5-1. General differences

There were 55 IB coordinators whose schools are located in the Asia-Pacific region. The majority of the IB coordinators in the Asia-Pacific region described their schools as...
“private and international schools” (69.1%) whereas the majority of the IB coordinators in the other regions indicated their schools as “state or public schools” (49.1%): $\chi^2(3) = 31.80$, $p = .000$. The Cramer’s V = .372, $p = .000$ suggesting that the strength of the association between region and school type is a medium association (i.e. the maximum value = 1.0).

Figure 3-2. School types: IB schools in Asia Pacific vs. other regions

In line with this, the Asia-Pacific IB coordinators were less likely than other IB coordinators to indicate that their schools have implemented the MYP in conjunction with another state-wide system: $\chi^2(1) = 8.94$, $p = .004$.

Finally, the Asia-Pacific IB coordinators were more likely than the other IB coordinators to indicate that their schools implemented MYP first (50.9%) whereas their counterparts were more likely to implement DP first (67.8%): $\chi^2(2) = 19.40$, $p = .000$. 
3-5-2. Learning culture
The Asia-Pacific IB coordinators were less likely than other IB coordinators to characterize MYP learning culture as having emphasis on subject content: $\chi^2(1) = 9.49, p = .003$. In a similar vein, the Asia-Pacific IB coordinators were less likely than other IB coordinators to characterize DP learning culture as having an emphasis on student inquiry: $\chi^2(1) = 5.43, p = .027$.

3-5-3. Challenges and changes
The Asia-Pacific IB coordinators indicated similar “challenges” related to the transition described earlier (see Section 3-3). In terms of “changes” they need for improving the transition process, however, they showed some differences. Specifically, whereas the majority of the Asia-Pacific IB coordinators (48%) and that of the other IB coordinators (72.2%) viewed “standardized internal MYP assessment tasks” as an important change needed, the Asia-Pacific IB coordinators were more likely than other IB coordinators to view “standardized internal MYP assessment tasks” as change, “neither important nor unimportant”: Mantel-Haenszel Chi-square test $\chi^2(1) = 5.76, p = .0164$. Another distinctive feature was that 61.5% of the Asia-Pacific IB coordinators viewed “external MYP exams” as “unimportant” whereas 39.2% of the other IB coordinators viewed it as unimportant. That is, the Asia-Pacific IB coordinators were less likely than other IB coordinators to view “external MYP exams” as important: Mantel-Haenszel Chi-square test $\chi^2(1) = 10.50, p = .0012$.

3-5-4. Management of the MYP-DP transition
While there were no particular differences in management practices employed in schools for addressing the transition between the Asia-Pacific IB schools and their counterparts in other regions, IB coordinators from the Asia-Pacific schools were 3.02 times more likely to indicate that teachers teach both MYP and DP programs to manage the transition in their schools: $\chi^2(1) = 4.29, p = .055$ (borderline significant).

3-5-5. Monitoring and assessment
The major differences between the Asia-Pacific IB schools and their counterparts were largely found from monitoring and assessment tools they utilize. For monitoring and assessing MYP students’ progress and performance, the Asia-Pacific IB coordinators were 4.13 times more likely than the other IB coordinators to indicate that their schools use “written reports to parents at least twice per year”: $\chi^2(1) = 10.43, p = .001$. They were 9.66 times more likely than the other IB coordinators to indicate that their schools use “written reports including subject criteria levels”: $\chi^2(1) = 23.24, p = .000$. Additionally, the Asia-Pacific IB coordinators were 2.0 times more likely than the other IB coordinators to indicate that their schools utilize “parent/teacher/student or student-led conferences”: $\chi^2(1)$
4.49, \( p = .038 \).

With respect to monitoring and assessment for DP students, similar findings were again identified. Consistent with the findings above, the Asia-Pacific IB coordinators were 3.70 times more likely than the other IB coordinators to indicate that their schools use “written reports to parents at least twice per year”: \( \chi^2 (1) = 6.17, p = .014 \). They were also 2.19 times more likely than the other IB coordinators to indicate that their schools use “written reports including subject criteria levels”: \( \chi^2 (1) = 5.18, p = .027 \).

3-5-6. Summary

While there were many similarities concerning IB implementation in the Asia Pacific region, some distinctive characteristics were also identified. Notably, several differences by learning culture, monitoring and assessment, and changes needed suggest that the IB schools in the Asia Pacific region may have a more test-oriented learning culture and thereby require different changes needed for the transition. It should be noted that they tended to view “less content in DP” as a more important change needed. They were less likely than other IB coordinators to view “external MYP exams” as important. Furthermore, they tended to view that “standardized internal MYP assessment tasks” as change, neither important nor unimportant. Reflecting the changes they endorsed for improving the transition, they were less likely to indicate that their DP learning culture places an emphasis on student inquiry. Our qualitative data analyses further investigate how learning culture and changes the Asia Pacific IB schools face are associated with curriculum implementation.
4. KEY FINDINGS FROM THE MULTIPLE CASE STUDIES

4-1. Introduction

In this chapter, we describe key findings from our multiple case studies—i.e. strategies and practices that promote successful program transition and curriculum. First, we outline school selection and data collection of the case studies. Second, we illuminate how program transition and curriculum articulation are deliberately introduced, implemented, supported, and revised through various school strategies and practices in the five schools—e.g., backward mapping, cross-program interaction/involvement among staff, designed interactions among students across programs, staffing strategies, academic and pastoral support for students in program transition, parent education/meetings, creation of smaller school environments, etc. We map out 1) how all these leadership strategies are interconnected with each other 2) how they meld in each school’s organization structure and 3) how such structures function as catalysts for forming consistency and coherence that contribute to successful program transition and curriculum articulation. Finally, based on our findings, we provide implications of policy and practice for IB program transition.

4-2. Key Findings

Key Findings

- There were 18 key themes associated with successful program transition and curriculum articulation.
- Of the 18 themes, 10 common themes and their interactions with other themes were identified across the five schools.
- Several external conditions (e.g. school contexts, different interpretations of IB, university requirements, etc.) turned out to be associated with program implementation and transition.
- Leadership and school management enabled the schools to respond to the external conditions and implement better program transition.
- Key leadership and management strategies included articulation, cross-program involvement/interaction, staffing strategy, and structured pastoral support.
- Leadership and school management contributed to building coherence/consistency between programs that promotes a better program transition.
4-2-1. Key Themes Related to Program Transition and Curriculum Articulation

Based on the coding scheme, we patterned several related or similar codings in order to develop themes associated with program implementation and transition. As a result, we identified 18 themes from the five schools as seen in Table 4-1.

Table 4-1. 18 Themes and definitions

<table>
<thead>
<tr>
<th>Themes</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articulation</td>
<td>• School strategy such as backwards mapping, documentation, and conceptual approach for curriculum articulation</td>
</tr>
<tr>
<td>Consistency and Coherence</td>
<td>• Consistency as alignment between of the messages within individual IB programs (PYP, MYP, and DP), and their openness to interpretation by those involved (or not involved)</td>
</tr>
<tr>
<td></td>
<td>• Coherence as to whether different programs are explicitly linked to one another</td>
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<tr>
<td></td>
<td>• Consistency and coherence identified throughout the three programs in terms of curriculum, learning and teaching, common language, etc.</td>
</tr>
<tr>
<td>Consistent assessment</td>
<td>• Consistent or similar assessment used in both MYP and DP</td>
</tr>
<tr>
<td>Cross-program interaction (students)</td>
<td>• Students interactions (both formal and informal) across programs which contribute to the transition</td>
</tr>
<tr>
<td>Cross-program interaction (staff)</td>
<td>• Sharing information about subjects, students, curriculum, and programs through staff’s informal interactions (e.g. lunch together or informal chat in a shared staff room) as well as formal meetings (e.g. workshops and regular staff meetings)</td>
</tr>
<tr>
<td>Cross-program involvement (staff)</td>
<td>• More durable and more planned cross-program interaction than cross-program interaction described above</td>
</tr>
<tr>
<td></td>
<td>• Three types of cross-program involvement—1) cross-program teaching (teachers teach more than one program such as both MYP and DP), 2) cross-program cooperation (some teachers get involved in other programs as a mentor or project supervisor), and 3) cross-program experience (some staff have teaching/coordinating experiences of other programs)</td>
</tr>
<tr>
<td>Difference in assessment</td>
<td>• Program differences in assessment perceived by students and/or staff</td>
</tr>
<tr>
<td>Difference in learning and teaching</td>
<td>• Program differences in learning and teaching perceived by students and/or staff</td>
</tr>
<tr>
<td>External factors</td>
<td>• Outside factors influencing program differences (e.g. university requirements and IB diploma exam)</td>
</tr>
<tr>
<td>Interpretation of IB</td>
<td>• Different or same interpretations of IB program</td>
</tr>
<tr>
<td>Leadership and school</td>
<td>• Leadership practices and management strategies including policy,</td>
</tr>
<tr>
<td>management</td>
<td>intervention, and/or initiative for program transition and implementation</td>
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<td>------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Local contexts</td>
<td>• Influence of local contexts (including culture deeply embedded in society) on IB programs in general and the transition in particular</td>
</tr>
<tr>
<td>Parent education/meeting</td>
<td>• Importance and need of parent education and meetings related to IB programs and the transition</td>
</tr>
<tr>
<td>School size</td>
<td>• Small size as a factor related to program implementation in general and particularly pastoral transition and cross-program interactions among school members</td>
</tr>
<tr>
<td>Staffing</td>
<td>• Staffing strategies including hiring and allocating staff that are associated with program implementation and transition</td>
</tr>
<tr>
<td>Structured pastoral support</td>
<td>• Pastoral support for students that are planned and implemented</td>
</tr>
<tr>
<td>Support for students</td>
<td>• A variety of support for students offered by schools and teachers</td>
</tr>
<tr>
<td>Within program collaboration</td>
<td>• Staff collaboration within a particular program</td>
</tr>
</tbody>
</table>

More specifically, Table 4-2 illustrates how the themes described above and relationships among themes were identified in each case school. In the table, black colored themes were identified from the schools whereas red and blue colored themes were not strongly identified or not identified from the schools, respectively. In the case of School 1, for example, 15 out of the 18 themes and their relationships were identified. In the case of School 5, all themes and relationships were found.
<table>
<thead>
<tr>
<th>School 1</th>
<th>School 2</th>
<th>School 3</th>
<th>School 4</th>
<th>School 5</th>
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<tbody>
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<td>Articulation</td>
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<td>Difference in assessment</td>
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<tr>
<td>Difference in learning and teaching</td>
<td>Difference in learning and teaching</td>
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<td>Difference in learning and teaching</td>
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<td>External factors</td>
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<tr>
<td>Interpretation of IB</td>
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<td>Leadership and school management</td>
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<td>Structured pastoral support</td>
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<td>Support for students</td>
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<td>Support for students</td>
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<tr>
<td>Within program collaboration</td>
<td>Within program collaboration</td>
<td>Within program collaboration</td>
<td>Within program collaboration</td>
<td>Within program collaboration</td>
</tr>
</tbody>
</table>

Red: ‘themes’ not strongly identified from the school  
Blue: ‘themes not identified from the school  
Black: ‘themes’ identified from the school
The thematic network below visualizes interactions among the 18 themes identified. The linkage between two themes is based on interview data. Therefore, an arrow indicates either relationship or interaction (i.e. mutual relationships) between the themes. For example, ‘interpretation of IB’ is associated with ‘difference in learning/teaching’ and ‘difference in assessment.’ And its direction indicates that different interpretations of IB program influence or trigger different learning/teaching and assessment between programs. Numbers on arrows indicate each number of thematic relationships identified from each school—i.e. the number ‘5’ means that a particular relationship was identified from the five schools. Different circle sizes of each theme represent the degree to which each theme plays a central role in the thematic network.

Figure 4-1. A thematic network from the five schools
Another map provided below is a different visualization of the same thematic map presented above for the purpose of simplification. The red arrow indicates relationship between themes that are identified across the five schools. The gray arrow indicates relationship between themes that are identified from only a few schools (the width of the gray arrows represents the frequency of themes identified from the case schools—i.e. the wider, the more frequently identified).

In the following section, we detail key connections between themes. While we touch on the overall thematic network, we pay special attention to the ‘common’ thematic network, indicated by the red arrows in the map below.

Figure 4-2. A common thematic network from the five schools
4-2-2. Common Themes and Relationships across the five Schools

In this section, we illuminate an in-depth picture of success factors commonly identified from the five schools that foster effective implementation of, and transitions among the IB programs. For the purpose of illustration, we also reproduced a more simplified common thematic network drawing from the thematic network presented above. Specifically, we combined several closely related themes. For example, we combined 1) cross-program interaction among staff, 2) cross-program involvement among staff, and 3) cross-program interaction among students under the overarching heading of ‘cross-program interaction.’ And we excluded several case specific themes, which were identified from only a few schools (e.g. within-level cooperation).

![Diagram of common thematic network across the five schools](image-url)

*Figure 4-3. A common thematic network across the five schools (simplified)*

The network map illustrates that there are three major external conditions that the case schools commonly face: 1) school contexts (including school size, local context/culture, and key stakeholders’ concerns), 2) interpretation of IB program (i.e. interpretation of IB
program by different key stakeholders), and 3) external factors (e.g. IB assessments and university requirements).

Notably, the case schools also attempted to respond to those external conditions through leadership practices and school management strategies (see the theme of ‘leadership and school management’ in the map). The network map represents that the commonly and saliently identified leadership practices and management strategies are narrowed down into 1) various strategies for the purpose of articulation, 2) cross-program interaction, and 3) strategic staffing. In addition, it is worth mentioning that there are several important relationships among those key leadership and management strategies. First, articulation and cross-program interaction among staff are somewhat intertwined to facilitate the MYP-DP transition. In other words, some articulation approaches are boosted by cross-program interaction among staff. Conversely, some cross-program interaction among staff is deliberatively designed from articulation strategies. More details will be described later in this chapter. Second, some staffing strategies such as multiple positioning or position switching across programs promote cross-program interaction among staff (see the direction of the arrow from ‘staffing’ to ‘cross-program interaction’).

Furthermore, the right side of the network clearly shows key themes that ‘directly’ contribute to a better program transition—i.e. articulation, consistency/coherence, and support for students. Among the three major leadership and school management strategies, articulation turned out to be the only theme that is ‘directly’ connected to program transition. At the same time, articulation indirectly promotes a better transition through building ‘consistency and coherence’ between programs. ‘Consistency’ between programs in terms of teaching, learning, and assessment was critical to a smooth transition. In a similar vein, ‘coherence’ of curriculum between programs was another key pillar for a smooth transition. Finally, ‘support for students’ turned out to be also directly associated with better program implementations and transitions in particular.

In the following section, to provide detailed description of the common thematic network map illustrated in Figure 4-3, we begin with the description of external conditions that are indirectly associated with program transition. We then turn to key leadership and school management that 1) respond to those external conditions and 2) make a better program implementation and transition. In particular, we focus on illuminating the most salient as well as common leadership and school management strategies that are directly associated with successful program transition. Specifically, we discuss the following key themes and their interactions with other themes: articulation, cross-program interaction, and staffing. Finally, we explain how and why such leadership and school management contribute to ‘coherence/consistency’ and ‘support for student’ that promote a better program transition.
4-2-3. External Conditions Associated with Program Transition

School Context 1: Local Context

Socio-cultural factors embedded in local contexts that impact the work of teachers and implementation of the IB curriculum should be explored for a better understanding of why and how the case schools chose particular or common leadership practices and management strategies.

Data suggest that local contexts serve as both opportunities and challenges for IB program implementation. On the one hand, local contexts are utilized as resources of curriculum enrichment and extra-curricular activities.

…we take advantage of the fact that we are in Thailand, for example, in the environment system and society class, she [MYP teacher] is doing a field trip and takes advantage of the local flora and fauna. We’re visiting local estuaries. The course does a little bit of Thai blended into it in terms of investigating the rice industry…We take advantage of resources that is available in our community, basically (Secondary school principal, School 2).

On the other hand, socio-cultural factors embedded in local contexts also function as challenges in providing a better understanding of IB programs.

A lot of Asian populations come from countries that are very exam-oriented. And so the inquiry-based learning process and project-based learning are something initially frankly unsettled to some of those populations, especially the PYP…So there’s a lot of parent education that has to occur…I think, their [parents] stress and strain is more of “oh there is no exam so how can we know that kids are learning” that kind of thing or “oh there is no exam so how can we know that it is rigorous.” “My kid should be studying for exam” or “if they do not have that type of academic experience, they must not be working hard or something.” So there’s a lot of education that goes with that (Secondary school principal, School 2).

I think that the other thing that makes the transitions difficult is the parents particularly….initially what is going to people and confusing for all the parents is all the jargons... Because you’ve got things like programs of inquiry, learner’s profile, and trans-disciplinary skills, all these words that teachers and parents translate differently (PYP coordinator, School 5).
As the excerpts above suggest, case schools need to address parents’ different pedagogical understandings of the IB programs, which are deeply rooted in local education systems and cultures. As seen in Figure 4-3, one common strategy used by four of the five schools was to provide parents with meetings and education for a better understanding of the IB programs. The concern of local contexts as a challenge was clearly identified from School 4 where a majority of student populations (51%) are local Hong Kong students.

…we have always been told that we have to understand the local culture, but there are very basic requirements in standard and practices that I show you. Those are non-negotiable. So, as long as the school aligns with standard and practice, it could be an IB school (PYP coordinator, School 4).

**School Context 2: School Size**

Among several key organizational features (e.g. student ethnic proportion, faculty size, school history), school size was the most salient theme that is indirectly related to program transition. School size influenced 1) cross-program interaction among students and 2) cross-program interaction among staff. For example, School 2, the smallest school (475 students) in the five schools, was taking advantage of its inherently smaller school size for facilitating cross-program interaction among staff and students. Specifically, the following excerpts from School 2 staff show the linkage between smaller school size and cross-program teaching and involvement.

Well, because we are so small, all teachers are teaching in diploma program and also teaching in the MYP program, they have familiarity…(secondary school principal, School 2).

It’s still a small school, I mean this is a smaller place…and I think it is a benefit …[because the school is small] as a math teacher, I taught at the same time in any week, 8th grade, 9th grade, 10th grade, 11th grade and 12th grade courses. Just having experienced that kind of sequence…I could easily adjust in a new sequence [of math curriculum]...(DP coordinator, School 2).

More importantly, such cross-program interaction among staff seems to be sources of support for students.

We are fortunate that we are a small school and our class is pretty small, so the

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11 Although different researchers have different ideal sizes of a small school, most researchers tend to recognize that a size of 400 is best as an upward limit of small schools (Cotton, 2001).
teachers’ load in terms of the total number of students they have is pretty small. (Interviewer: What’s the average class size?) 15 to 20. So, they [the teachers] put the kids in the right direction…and I think there is a high level consistency across the classes in terms of being inquiry-based, having project-based learning, and having things that really require critical thinking…I know all the names of the kids in MYP and DP…That allows us to monitor the kids (secondary school principal, School 2).

In primary school when we do that exhibition, we ask secondary school teachers to go down and help support on that. If it’s a science thing, we might have science teacher involved and we also ask teachers in secondary school if they’re interested in helping to mentor small groups of students with their exhibition work (Head, School 2).

One distinguished management strategy of School 2 related to its smaller school size was to facilitate cross-level or cross-program interactions among students that seem to help students with the program transition.

I felt like when we got to DP, we had a trip to Kao Yai. It…helped to make us [11th and 12th graders] bond…And teachers seemed to make grade 12 and 11 a lot closer and we felt like one class instead of two (DP student B, School 2).

So in that trip we basically learned the different components of the program like TOK, standard essay and then the CAS program…And that trip also helped us bond with grade 12 students better because we were paired up with them we got to spend more time personally with them and socially also, not just talked about school but talked about other stuff. So that trip certainly helped (DP Student E, School 2).

[when we were MYP students] we could always go and see them [DP students] during study period if we didn’t understand and they also provided different resources for us to understand the course and also we could always ask the grade 12 students …Most of the [MYP] students already knew them [DP students]…we shared our lounge, study room but they also had like a tutoring club for CAS and we could also go there (DP student F, School 2).

Because the 12th graders have been through and the 12th graders know what they are going through; I mean they realize the dilemma that the 11th graders
can learn a lot from the 12th graders – “Do this, don’t do this” And they transmit it in a way that we just couldn’t exactly help. And that they can share. So that was the idea like this is going to be a unit – you deliberately put the 11th graders and the 12th graders in the home room—that is, in the same space and part of that was for the idea transmission (DP Coordinator, School 2).

In brief, drawing from School 2, a smaller school size seems to make the quality of transition effective because it contributes to cross-program fertilization through cross-program interaction among school members.

While School 2 is a small school, it should be recalled that other three schools are relatively big schools (i.e. School 1-1,410 students, School 4-1,748 students, and School 5-1,450 students). Interestingly enough, the fact that a larger school size was a structural challenge in facilitating cross-program interaction among staff was clearly identified from all these big schools. These three schools recognized their school size issue related to school members’ interaction.

I am actually working with two sets of staff [middle and high schools], so for Jane [DP coordinator] she can concentrate on high school teachers, so I’ve got to know both high school and middle school teachers and be able to kind of get meetings in both high school and the middle school. But what I see is a really strong sense of community in the middle school and a strong sense of community in the high school. The biggest challenge is actually having conversations across both. But to be honest the size of our school, you’d have those challenges anyway. Do you know what I mean, you would actually have challenges, even if…we didn’t have that break between middle and high school, you’d still have to have those issues of how you would get such a large staff together to have collaborative planning together (MYP coordinator, School 5).

Similarly, the following excerpt from School 1, another large school, implicitly suggests that the larger the school, the more difficult managing the transitions are. In brief, as far as school size is concerned, it can be summarized as ‘the smaller, the better.’

School 1 is successful [in the MYP-DP transition] given that it is a big school (MYP-DP math teacher, School 1).

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12 There is a general consensus among researchers that a size of 1,500 students in a school is regarded as large school (see Lee, Ready, & Welner, 2002).
13 Note that all names from excerpts are pseudonyms for protecting privacy.
14 Interestingly enough, themes related to school size was not explicitly identified from only School 3. This seems to be related to its mid school size (i.e. 892 students).
As such, these schools tried to mitigate the problem from their school size. For example, one of the leadership and management strategies to address this issue used in School 5 was to utilize information and communication technology (ICT). School 5 used a program called ‘Rubicon’ to map out curriculum across the three programs, which makes the three program coordinators interact with each other. School 4, the largest school in the five schools, utilized the initiative known as ‘smaller learning communities’ originally developed from the U.S. high school context. By creating smaller sub-units such as house plans and adult advisory systems that provide more personalized learning and caring environments within its larger school size, School 4 attempted to not just mitigate the negative impact of the large school size but also to create personalized learning environments that directly generate support for students.

One of the things we did successfully in my last school [in the U.S.] though we had a school of 2,200 students was we based them on 3 houses that they were in. Those students pursued the IB diploma, the full diploma was from years 9 to 12, there were 540 there and another 540 demanded a school pursuing medical careers, so that’s really a high school of 1080. The students took electives together, they played sports together... And when it comes to academic instruction, they were done within communities, learning communities; there’s a lot of in the literature about small learning communities. And that’s what we have here in its own way, we have a small learning community, we have almost the same number of students [as the last school], but there is less pressure, I think, when you spread those age groups out from 4 to 18... We also have an advisory period built into the secondary period and there is a lot of time, 20 minutes each morning, meeting and greeting students and checking (Head, School 4).

Students go to their advisors every morning to work with them. These folks are challenged with some of the pastoral transitions on a day to day basis. Historically we’ve had a difficult structure to make the advisory system, so we’ve been through a few things. The advisor is the role model or the pinnacle role of the transitions for the students (Middle school principal, School 4).

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15 Smaller learning communities are defined as the organizational restructuring of high schools that seeks to create smaller sub-units (e.g. house plan, school-within-a school, advisory system) that are more personalized and autonomous learning environments for improving educational outcomes and close social relationships within their larger, extant structures (Lee & Friedrich, 2007).

16 Interestingly, the head of School 4 was a former deputy superintendent in a school district in Florida where many public schools have adopted smaller learning communities programs (see Lee & Friedrich, 2007).
The house system runs through the entire school, with 4 houses. Yes, the house system runs through the entire school and there are 7 primary house directors, 7 secondary house directors, and their responsibility is to try and build in some of the social integration amongst the students; year 13 students are with the year 7 students. And we’re not there yet, but eventually we will have the secondary working with the primary in a more formal way (Middle school principal, School 4).

**Interpretation of IB and External Factors**

Another distinctive factor emerged from the data was different interpretations of IB programs among key administrators and teachers. A majority of administrators and teachers viewed tensions as embedded between MYP and DP in particular as they interpret key characteristics of MYP and DP differently.

DP is more prescriptive… It doesn’t eliminate inquiry-based learning, it doesn’t eliminate creative teaching and engaging classes, but it is more prescriptive… (High school principal, School 5).

I’m not sure that the inquiry model drives Diploma as much as the PYP or MYP. (Middle school principal, School 5).

Content is different. DP is a lot more academic. It is a lot more bump on seat and ride in. It is a lot more analytical. It is about theory. The MYP is a lot more practical, it’s a hand-on and it is a more holistic program. It’s got a broader range of skills that it’s focusing on (MYP-DP teacher, School 1).

This different interpretation of the nature of MYP and DP seems to be related to other external factors such as IB diploma exams or university requirements although such linkage was identified from only a few schools.

I’m only teaching DP at this moment but I taught MYP but there is a big difference. (Interviewer: What is the difference besides the curriculum?) I think it is the approach…basically for the diploma subject…this is here your syllabus and you work out with your own teaching and pile up into units…I suppose the DP is, I would say, it is top-down. It is what the university wants… (DP coordinator, School 3).
You know, nothing can change at the diploma until the university change. That’s the big issue. You can’t change things because these kids have to go to university and university wants something (DP teacher, School 3).

What seems to be obvious is that IB diploma exams and university requirements function as key external constraints that tend to shape different learning culture between MYP and DP in general and different learning style, teaching methods, and assessments between MYP and DP in particular.

…well obviously at the upper end of the DP, we are constrained by university requirements and maybe I think, and many of us if we had a magic wand we would transform the DP to more like an MYP, and less like the A levels…But we know that the reality is that universities aren't on that same page as us, yet. So part of that’s historical and there’s no denying that in preparation for the DP and in preparation for higher learning that students have to become more compartmentalized in their subject areas to a certain degree. We need to start appointing subject specialists (Secondary school principal, School 4)

It is what the university wants…So, the MYP is far more based upon the processes and skill oriented where the DP is very much content driven. It [DP] is two hundred forty hours. We are just bombarding two hundred and forty hours’ teaching time for [IB 2010] May exams. There is very little time to create [inquiry-based] learning of those because you’ve got only half an hour to teach one batch, and you’ve got to go direct (DP coordinator, School 3).

4-2-4. Key Leadership and School Management Strategies

In response to the school contexts and external factors facing the case schools, three salient strategies in terms of leadership and management were commonly identified from the five schools—i.e. articulation, cross-program interaction, and staffing (see Figure 4-3). The primary purpose of those strategies was to not only respond to the external conditions but also make a better program implementation and transition.

**Articulation**

Articulation was clearly emphasized for enhancing coherent linkages between programs and/or visualizing consistent curriculum throughout programs. In other words, articulation was the overarching strategy identified from all the schools although there were
some variations in terms of approaches to articulation that were used by the five schools. We categorized such variations into three types: 1) backwards mapping, 2) cross-program interaction among staff, and 3) documentation.

First, backwards mapping was a common strategy for articulation highlighted in the five schools. Importantly, the main principle of backwards mapping emphasized by the schools was that it should be based on “skills and knowledge” that students are expected to obtain when they reach the final stage of the IB program.

I would say that more and more we are realizing that we are now in the process of articulating. We articulate our curriculum is actually looking at it backwards; sort of model, looking at what is demand for DP and then looking what skills and knowledge base these students need to have to transition smoothly into the DP...And it is being done on routine and perhaps a little bit on ad hoc. Maybe that’s even not so true but maybe not as clearly focused now as we are now doing. And we are mapping our curriculum and we are articulating our curriculum and looking for gaps that may exist (Middle school principal, School 5).

I think that the MYP is not a program designed as a pre-diploma program. I think that is my interpretation of the MYP in terms of content. So we are not preparing the student in year 9 Science to be able to access year 12 Chemistry. I would say that the student preparation in terms of Diploma program is to ensure that throughout the five years of the MYP, they have many skills and conceptual understanding that they need to access the curriculum in year 12. I think that there is a misunderstanding that the year 10 and 11 are pre-diploma years. Don’t perceive that as pre-diploma years. I do perceive them as rigorous and I see those years as getting the students up to speed in terms of organizational skill, thinking skill and transfer skill. If an MYP program is rigorous in terms of design backwards so that we know exactly what we want them to have in terms of skill and high level thinking for the diploma, we need to teach them from the PYP (DP coordinator, School 1)

Second, cross-program interaction among staff was another key strategy used for articulation.

The challenges of developing a focus sequence are vertical articulation and horizontal articulation. That is the challenge all schools face everywhere. We are more fortunate in that we can have the MYP coordinator and that’s part of
the requirement of an IB program. What I mean is we have essentially a
curriculum coordinator who specifically focuses on grade 6 to 10. So there are a
lot of interactions between the MYP coordinator and the teachers and the unit
planning. We do a lot of work to create time for teachers to get together, for
collaborative planning to make teachers aware what other teachers are teaching,
to get departments together to talk about what is going on in grades 6, 7, and 10.
Also for DP teachers now more specifically talk backwards (Secondary school
principal, School 2).

Third, documentation was widely used for articulation across the schools. Among
them, School 2 was the most active in using this approach. Through its “Articulation
Committee,” School 2 tried to create an “overarching school philosophy statement” (quoted
from Secondary school principal). Based on that, they also generated and disseminated
relatively clear policies of assessment and language that are based on learner profiles.

We also looked at the commonalities in the three programs and decided to look
at the profile and used it as a tool between the three programs; that’s how we
capitalized…what all the three programs share, and that’s how we made that
more evident school-wide (PYP Coordinator, School 2).

In a similar vein, School 5 also used documentation to provide more concrete
guidelines for curriculum consistency.

I am talking about the three parts that you want the students to know and
understand…So we have spent some times developing what we called
curriculum guideline for the school…And what we are doing now is developing
an overarching guideline school-wide that we would make a statement, which is
how we define the curriculum, and this is what we inherited any outstanding
curriculum (Director, School 5).

In addition, School 5 utilized an ICT tool called “Rubicon” for curriculum
articulation, which is a unique documentation approach only found from School 5.

…one of the tools to actually realize that goal [articulation] was to actually
develop a curriculum development team …so the three curriculum coordinators
are automatically there and then the teachers apply to be on the team, they get a
stipend. And that team is actually involved in things like action research projects
at the moment. But one of the areas that was a big part of that was actually
‘Rubicon,’ which is…a curriculum mapping device program (MYP coordinator, School 5).

Now I think…that we are looking at using Rubicon in a way, in a very positive way, in terms of trying to link things for a better understanding and seeking skills in the school while looking at the continuum of learning (PYP coordinator, School 5).

Interestingly, the main reason why School 5 was using the curriculum mapping technology was because its large school size impacts cross-program interaction among staff, described earlier. In this regard, there are two-fold aims embedded in School 5’s using the curriculum mapping technology. One is to address the big school size issue that undermines cross-program interaction and the other is to articulate overall curriculum consistency.

And the aim of that program [Rubicon] is actually to enable us to see what’s happening across elementary middle and high. We are a large school so we are not going to sit down and have teachers together for the time. We need to be able to see what’s happening. So, we use…documentation [through Rubicon] to provide more concrete guidelines for curriculum consistency (MYP coordinator, School 5).

**Cross-Program Interaction**

As described above, cross-program interaction among staff occurred especially when schools such as School 2 were implementing curriculum articulation through backwards mapping. In this regard, cross-program interaction among staff can be viewed as an organizational tool for articulation. At the same time, however, it should be noted that all the five schools viewed cross-program interaction among staff as a ‘broader’ strategy beyond for articulation. Cross-program interaction among staff was commonly identified as a key leadership and management strategy that aims at supporting students and thereby forming better program transitions.

Various types of cross-program interactions among staff were identified. They can be categorized into two major types: 1) cross-program interaction and 2) cross-program involvement. Cross-program interaction here includes both informal and formal interactions among staff in association with program transition. With respect to informal interactions, teachers and coordinators from different programs tended to have a chance to understand others’ work and programs serendipitously through informal interactions such as lunch together and informal chat in a shared staff room. With respect to formal interactions, teachers and administrators tended to learn more about other programs from formal
meetings such as regular staff meetings and school-wide workshops.

Another type of cross-program interaction can be labeled as cross-program involvement that includes 1) cross-program teaching (teachers teach more than one program such as both MYP and DP, 2) cross-program cooperation (some teachers get involved in other programs as a mentor or project supervisor), and 3) cross-program experience (some staff have teaching/coordinating experiences of other programs). These cross-program involvements were incorporated under the heading of cross-program interaction in Figure 4-3 in that involvement is conceptually one kind of interaction. However, cross-program involvement is purposively planned and more durable cross-program interaction. For example, some cross-program interactions could be naturally-occurred activities in an informal setting (e.g. lunch or commute). Some cross-program interactions are also expected to occur during school-wide workshops, which could be sometimes ad-hoc or episodic. Cross-program interactions such as formal and regular staff meetings could be sometimes superficial or stereotyped. However, whereas cross-program involvement is one kind of cross-program interaction, it has two distinctive features. First, it is a more planned cross-program interaction –i.e. some teachers are purposively invited to get involved in other programs as a project mentor and supervisor until the project is complete. Second, it is more durable cross-program interaction because it also includes cross-program teaching during an academic year. In brief, cross-program involvement is a special type of cross-program interaction.

Let us turn to examples of cross-program interactions/involvements described above and how they are associated with support for students and program transitions. First, informal interactions among staff serve as a channel for staff to understand other programs.

I was on the train with one of the secondary teachers, and we were talking…he’s never seen year 1 class before. So I said why don’t you come down and just sit in any class.  He was sat there; he was amazed that …It’s also ensuring that teachers have an understanding of what is happening at either end (PYP coordinator, School 4).

Notably, this kind of informal interaction may occur regularly in schools such as School 2 mainly because it has a same timetable for staff lunch.

…this is the first school that I ever work where the teachers [MYP and DP teachers] all eat together and the teachers eat lunch with the students. So we all go to the canteen. There is a teacher table, basically we all sit together. And lots of different things I talk about…personal things and professional things. Like, hey, make sure you send someone over to me later, that sort of thing…The place
tends to be an actually positive and productive place…

Conversely, different timetabling of staff lunch seems to make cross-program informal interactions difficult to happen.

They [PYP teachers] have that [lunch] together but not share experience across programs there. It is because we are in separate buildings and due to the different schedule, so they have lunch at different time…so it is very easy not to get to know the PYP teachers and it is very easy not to see people or friends down there or things like that…If the MYP teachers have a better understanding of the philosophy of the primary year program…, then they’ll be better able to serve the students as they come in and sort of have a sense that what strength they are going to have…(Secondary school principal, School 2).

While it was not explicit whether making the same timetable for staff lunch was a management strategy, it was clear that such naturally-occurred interactions from staff lunch are attributable to timetabling. A similar timetabling issue emerged again as far as cross-program teaching is concerned (This will be discussed later).

Coupled with those informal interactions, there were abundant cases of cross-program interactions through purposive, formal meetings whether they are ad-hoc or regular (as discussed below, since many teachers in the case schools teach both MYP and DP, they also attend both program meetings).

…we continue developing the learner profile across the whole school. Our grade 5 teachers now meet, not regularly, but as often as they can with grade 6 teachers to see if there is continuity between what kids learn in grade 5 and what the grade 6 teachers are expecting them to start. So there’s a lot more of dialogues in there that goes in between some of those teachers…(Elementary school principal, School 5).

With respect to cross-program involvement, the most salient phenomenon was cross-program teaching across the five schools

I think most of the language teachers are teaching both the programs for the smooth transition from the Middle Years Program into the DP (MYP-DP language teacher, School 1).

One of the important things is that all of our DP teachers are MYP teachers.
(Interviewer: Is that by design or is that purposeful?) There’s a sense of purpose in there, in other words, we would try not to have a teacher who is delegated strictly to DP (Middle school principal, School 4).

For example, Jennifer, she teaches Grade 9 and 10 chemistry. In one of her previous schools, she taught Diploma Chemistry. Next year we may get an extra chemistry class where she can also teach Diploma chemistry as well. The biology teacher teaches Diploma and also teaches grade 9 or 10 biology. And that is the same in a lot of subjects. You have teachers who teach across (DP coordinator, School 3).

While cross-program teaching was identified from the five schools, there were several distinctive underlying reasons why they employed cross-program teaching. First, cross-program teaching was viewed as a means for a better MYP-DP transition.

Through the PYP, MYP and the DP progress, they [students] are learning new skills or new approaches to build on what they had before. It is a lot easier in the MYP and the DP at School 2 because most of the DP teachers are MYP teachers as well (DP coordinator, School 2).

I think it is hugely important in so far that the DP teachers have a sense of the expectation and the rigor of the MYP…Certainly the MYP teachers…know where the kids are coming from and they can engage the kids at the necessary level. But what the Diploma teachers don’t want to have to do is to go back and start teaching critical reading skill, synthesizing skill or analytical skill. The assumption is that by the time students get to diploma, they’ve done that…That is really important to have a successful transition between the two programs. [In this sense] Teaching across the programs is, I would argue essential (MYP-DP humanities teacher, School 1).

Second, administrators seemed to believe that making teachers experience different programs contributes to teachers’ better understanding of the whole IB program.

(Interviewer: So what’s the rationale for having MYP in DP?) The rationale…we’re helping teachers to spread themselves across [the programs]…Because what we don’t want to do is to compartmentalize so we don’t want a teacher that has an only DP experience, who does not know where their knowledge background is. They need to know what skills students are
bringing to DP. They need to know what’s going on with students last years...So we don’t end up with a DP specialist and MYP specialist (Middle school principal, School 4).

Another reason was a timetabling or workload issue. While cross-program teaching was mostly regarded as a kind of norm shared by most teachers and administrators, it was also related to a practical timetabling or workload issue.

It [cross-program teaching] is not a policy, I think, there is certainly an idea behind the fact that people who are Diploma teacher should have a sense of where it is coming from. And timetabling, you can’t have somebody only teaching Diploma; they would not have a full teaching load in this school (MYP-DP humanities teacher, School 1).

Cross-program cooperation, another type of cross-program involvement, was also identified. In particular, cross-program cooperation among staff was by large made by teachers’ involvement in an adjacent program’s main project—e.g. PYP-MYP and MYP-DP. Specifically, cross-program cooperation was made in the form of cross-mentoring rather than regular teaching.

I have been the diploma supervisor, I’ve also been the MYP project supervisor and I’ve also been a PYP exhibition mentor. We’ve a lot of staff numbers who have done that as well, we don’t have the PYP teacher who are extended as [DP] supervisors, but we do have PYP teachers who are MYP personal project supervisors (Secondary Principal, School 2).

I think MYP teachers were mentoring the PYP Exhibition Unit last year. A lot of teachers were involved (MYP-DP language teacher, School 1).

We also have PYP teachers who involved in the personal project as well. (Interviewer: That is new, isn’t it?) No, it has been there for a long time. I think it is from the very beginning of the MYP program. It is very strong (MYP-DP math teacher, School 1).

Cross-program experience, another type of cross-program involvement, was also found from the case schools. Many of teachers had IB teaching experiences prior to joining the current school. As such, most of them also had teaching experiences of different IB programs. And this cross-teaching experience seems to make teachers understand better the
whole IB program. For example, even though some teachers are currently teaching only DP, because they have some PYP or MYP experience, their teaching DP is more likely to be consistent with PYP and MYP.

Importantly, as seen in Figure 4-3, cross-program interaction (including cross-program teaching/involvement/experience) seems to be a purposeful articulation device.

We have PYP teachers involved with the personal projects. So, the personal project – that’s really important that we have the grades 6th and 7th teachers as mentors for the 11th graders and so, we do a lot of cross grade work – to the primary principals teaching TOK. So, I think what is important is to have a strategy where people come from different programs (PYP coordinator and vice principal, School 2).

I think I’ve done a lot of work with the program transition from grade 5 to grade 6. There’s a lot more of work going now on between primary and secondary, for example, the personal project. We have some primary staff who are supervisors for the personal projects…In primary school when we do that exhibition we ask secondary school teachers to go down and support those areas. If it’s science thing we might have science teacher involved and we also ask teachers in secondary school if they’re interested in helping to mentor small groups of students with their exhibitions work (Head, School 2).

Importantly, as seen in Figure 4-3, cross-program interaction (including cross-program teaching/involvement/experience) seems to serve as sources for support for students. Many DP students stated that having same teachers who taught them in MYP is beneficial because the same teachers know their learning ability and understand what students are capable of. And also they are comfortable with teachers whom they have known so that they could talk to some personal as well as academic issues.

**Staffing**

Another distinctive key leadership and school management utilized to make a better program implementation and transition in the five schools was staffing. Specifically, there were four different types of staffing features identified in different schools.

First, securing certain teaching continuity or teachers’ job stability, which seems to be related to curriculum consistency, was one of the staffing strategies.

So the other advantage of School 1 is continuity [of programs]. Teachers tend to
be steady, they are not moving every two years... (MYP-DP math teacher, School 1).

Second, as far as hiring is concerned, most of the case schools tended to prefer to have teachers having previous IB teaching experiences although they were not exclusively hiring people with IB backgrounds. Hiring people already having IB experience and knowledge seems to contribute to making new teachers align with each school and making a smooth program transition because new comers are already equipped with common language (i.e. not just IB jargon or terminologies but also common knowledge and perspectives on IB). In the case of School 2, for example, the hiring committee utilizes interview questions about key components of IB such as the learner profile not only to make sure newcomers are academically well-prepared to teach contents, but also to assess whether their thoughts are basically aligned with IB perspectives.

Notably, this hiring tendency seemed to be related to 1) schools’ developmental stage and 2) key administrators’ interpretations of their schools as to whether their schools are IB schools or schools using IB programs. For example, the deputy head of School 4, which is the youngest school of the five schools (founded in the mid 2000s), pointed out that although they are not exclusively looking for IB people, they needed to hire “very experienced, very, very experienced IB people” at the early stage of the school (Deputy head, School 4). However, as the school settles down, School 4 tends to be open to teachers not having IB experiences in hiring to some extent.

And as we grow and add people, and now we are fairly confident at the amount of expertise that we have. So we are bringing teachers who may or may not have PYP experience or IB (PYP coordinator, School 4).

Additionally, key administrators’ perceptions of whether their schools are IB schools or schools using IB programs seemed to be related to staffing. For example, while the head of School 4 viewed his school as an IB school, the head of School 3 defined his school as a school using the IB programs.

I don’t know what the IB thinks it is. But all I said is we are not the IB school; we are a school that has taken on the IB program and we are making our own (Head, School 3).

This interpretation was shared with the other two principals at School 3, saying that when they hire, they look for “good people who have good teaching skill” although candidate teachers may not have IB experiences.
Third, in a school like School 4, it employed cross-hiring that refers to cross-program involvement in hiring a person for a position even though the position is needed for a particular program only. For example, when School 4 hires a DP person, the hiring committee intentionally includes PYP or MYP staff as well so that the hiring could be aligned with the whole school’s function and benefit.

Fourth, multiple positioning was also identified in the case schools—i.e. one person takes charge of more than one position. Cross-program teaching is a typical example of multiple positioning. Cross-program involvement such as MYP teachers’ mentor role for PYP exhibition is another usual case of multiple positioning. Furthermore, people with administrative positions (e.g. program coordinators in School 3 and principals in School 4) also involved in other administrative positions or teaching certain subjects as a teacher. Additionally, intentional position switching—e.g. some teachers taught MYP last year but they teach DP this year—was frequently identified (e.g. School 1). This type of multiple positioning is basically related to staffing and timetabling issues but at the same time such multiple positioning strategies contribute to program coherence and curriculum consistency by promoting cross-program fertilization.

**Consistency and Coherence**

The three major leadership and school management strategies discussed above were associated with the enhancement of ‘consistency and coherence’ perceived by teachers and students. In particular, the contribution of various articulation strategies and staffing practices to ‘consistency and coherence’ were clearly identified from the five schools. Before going further, let us provide a brief definition of consistency and coherence in that they are abstract (non-observable) themes linked to other concrete (or observable) themes such as staffing and articulation. Coherence refers to whether different IB programs are explicitly linked to one another. Consistency is defined as alignment among the messages within individual IB programs (PYP, MYP, and DP), and their openness to interpretation by those involved (or not involved).

The findings suggest that consistency and coherence were perceived by students and staff especially when curriculum was clearly articulated, when learning culture (including assessment and teaching methods) was consistent throughout the three programs, and when common language (ranging from IB lexicons to IB interpretations) was shared throughout the three programs. More importantly, as seen in Figure 4-3, such perceived consistency and coherence promotes better program transitions ‘directly.’ For the purpose of explanation, we provide here several excerpts describing such linkage between consistency/coherence and program transition.

…there is one umbrella [the IB continuum], but clearly we have to do different
things for different ages, obviously…There’s a real tapestry that involves all the schools [elementary, middle, and high schools]. And that’s a part of the culture here, so I think that promotes and supports these sorts of transitions (High school principal, School 5).

There is a lot of jargon from one program to the other. What they most recently asked us to do in the MYP is to break down and articulate the approach to learning skills. And we have been working on that. The first thing that we have done was to make the PYP and MYP coordinators come together and look at the languages and the skills identified in the program in both of the schools. Of course, they had different terminologies and they started to break them down and then of course there were similarities. They were working on and lining up the learning skills and breaking those down (Principal, School 3).

We share the [IB] continuum that is a snowball…We were starting the continuum in year 1 and by the time they [students] get in year 6, they should be able to do it independently. It is beautiful to see the year 1 students experiencing it and go out with it (PYP teacher 4, School 1).

What I really like about the three programs is that it’s kind of encouraging you to be a well managed thinker at a very young age. For example like in PYP, there’s a learner profile, and there’s like being part of the school, being selective and all that kind of stuff. And that carries out throughout your entire middle school, throughout the middle years program, and then in IB [DP] you see it again. And so it kind of all integrates in your head…and it gives you kind of different ideas and ways of thinking. And I guess that even connects with TOK which we start next week (DP student 1, School 5).

It’s not different, it’s just more. But it’s still the same process. You have to do more work than before, more effort…You get more freedom and independence. But it’s still the same IB thinking. Like, you still need to analyze the questions. By MYP and IB way of thinking, you get more independency and you want to do more (DP student 2, School 4).

The teaching method may be the same but the exam papers were different (DP student 4, School 4)…Yes, it didn’t take very long to adopt this, because it was not an abrupt change (DP student 3, School 4).
Support for Students

Many cases identified how support for students enables students to better adapt to a new program in general and DP in particular. As described earlier, cross-program teaching makes DP students feel comfortable because some of their DP teachers are the same teachers from their MYP. This also makes DP students not only feel comfortable but also provides consistent learning style through consistent teaching methods and curriculum. Cross-program involvement seems to work in the same way for students.

In addition, while the case schools provide support through the overall cross-program interaction among staff, some schools provide cross-program interaction between MYP and DP students by taking advantage of its small school size. For example, in School 2, there is a tutor system where senior DP students (i.e. grade 12) share information or give advice for MYP students or junior DP students (i.e. grade 11).

All the schools also emphasized not only program transition but also social transition. To this end, they provided a more structured pastoral support for students. In the case of School 4, it provided adult advisors (all of them are teachers) within so-called house systems. And also there was a position called a pastoral coordinator who supervises the overall advisory system. It should be also noted that the schools acknowledge that program transition issues are interwoven with pastoral transitions, which occurred on a daily basis.

And how do we ensure kind of cohesion from a curriculum point of view going from middle school into high school? We actually have that. Actually, the issues of transition from grade 8 into grade 9 are not academic. Rather, the issues are developmental and personal issues, you know, that have to do with the shift to the high school culture (MYP coordinator, School 5).

Actually we’ve got a very good transition team partially because we recognize that the transition from year 6 to year 7 is not as strong as it could be. And I think that is not the curriculum issue per se. I think that is the bigger wider pastoral issue as well. So I would say the transition issues that we face at School 1 are primarily pastoral issues. And those are things like, lockers, student’s diary, and organizational skill (MYP coordinator and vice principal, School 1).

4-3. Summary

The multiple case studies illuminate how leadership and school management enabled the schools to respond to the school context, and design and implement better program transitions. Specifically, articulation, cross-program involvement/interaction, staffing, and structured pastoral support were the commonly identified success factors that contribute to
coherence, consistency and support for students in program transitions.

Specifically, through the case studies, we identified that transition problems center on MYP/DP. We also found that school-wide cross program coherence and curriculum consistency supports successful transition across all three programs. We revealed how and why curriculum articulation between MYP and DP reduces the curriculum gap. We also illuminated that cross-program interaction and involvement of teachers and students are key sources of program transitions. Based on these findings, we believe that the density of leadership and organizational learning throughout the case schools enable more effective responses to various program transition issues.

The figure below provides more quantitative information of how different factors are involved in program transition. The numbers in the parentheses show the degree to which one particular factor plays a key role in connecting with other factors. For example, if one factor dominates this thematic network, the number of the factor will be 1.0. As illustrated in the figure, support for students turned out to be the most influential factor among others (.423). It is followed by articulation (.336), cross-program involvement (.336), and cross-program interaction (.336). And consistency and coherence (.303) also showed a higher number among others. Notably, to provide more detailed information, we separated cross-program interaction and cross-program involvement in this figure unlike the common thematic network presented earlier in Figure 4-3 where those two are integrated under the heading of cross-program interaction. Thus, if we combine the numbers from the two factors, it will be the highest one (.672). This suggests that cross-program interaction/involvement, which is designed and facilitated by leadership and management, is a key approach to organizational learning about program transitions among staff that enables the schools to address transition problems proactively.

In conclusion, we believe that the ‘common’ factors and patterns of successful curriculum implementation identified in the case studies will provide practical information and insights that can be transferred to other IB school contexts facing similar transition issues.
Figure 4-4. Success factors in program implementation and transition
5. A BRIEF SYNTHESIS OF KEY FINDINGS FROM BOTH THE SURVEY AND THE CASE STUDIES

5-1. Introduction
In this chapter, we provide a brief synthesis of our findings from both the IB survey and the case studies. Not surprisingly, there were substantial common and overlapping findings identified from both the survey and interview data. Therefore, among many commonalities, we list key commonalities related to program implementation and transition. At the same time, since our entire study is based on a mixed-methods design—i.e. sequential explanatory design (quantitative first and qualitative follow-up)—drawing from our case studies, we provide more elaborated explanations about some key findings identified from the survey. In other words, we provide answers for how and why questions that are not explained by the IB survey findings. Finally, as we identify a small number of differences in findings between the survey and the case studies, we discuss briefly some nuanced differences from the quantitative and qualitative studies for charting a fuller picture of IB program implementation and transition issues.

5-2. Commonalities
As mentioned above, there were considerable findings overlapped by both the quantitative and qualitative studies. This suggests that the findings from our qualitative study may be extended to other IB schools’ contexts although the case schools are located in the Asia-Pacific region. This also suggests that many of IB world schools are confronting similar transition issues. With this in mind, we list key common findings identified from both the quantitative and qualitative studies.

First, with respect to learning culture embedded in MYP and DP, both of the studies showed similar findings.

- Different teaching/learning practices and assessment were used in MYP compared with DP. Specifically, MYP places more emphasis on inquiry-based learning, learning by doing, interdisciplinary learning, and holistic learning whereas DP places more stress on subject content and exam preparation.

- Despite this, the predominant inquiry-oriented learning practices used in MYP were viewed as ‘desirable’ or ‘authentic’ nature of IB program by a majority of both MYP and DP coordinators.

As such, there were common concerns about DP from both of the studies—i.e. dealing with detailed and prescribed content in DP. Specifically, both of the studies showed
that 1) increased emphasis on interdisciplinary learning and/or inquiry-based learning in the DP should be essentially needed and that 2) a wider range of internal assessment tools in the DP is needed.

Second, with respect to program transition, both the survey and the case studies indicated that leadership and management contribute significantly to successful program transitions. The IB survey data showed that coordinators from schools where leadership goes across programs were more likely to characterize the transition as “excellent or good.” The case studies, as illustrated in our thematic network, revealed that leadership and management played a central role in building the thematic network.

Third, the importance of cross-program interaction/involvement for successful program transitions was commonly identified from both the survey and the case studies. The IB survey data indicate that 1) coordinators from schools where teachers teach in both MYP and DP were more likely to characterize the transition as excellent or good; 2) coordinators from schools where there are meetings/collaboration between teachers of each program were more likely to characterize the transition as excellent or good; and 3) coordinators from schools where there are meetings/collaboration between MYP and DP coordinators were more likely to characterize the transition as excellent or good. The case studies clearly show how and why cross-program interaction and involvement contribute to a better program transition. In fact, cross-program interaction/involvement was a commonly identified school strategy from both the survey and the case studies. Approximately, 84% of the IB survey coordinators indicated that there are meetings/collaboration between MYP and DP coordinators for managing the MYP-DP transition. Similar meetings and collaborations were exactly identified from the case schools. Also, 69% of the IB survey coordinators indicated that there are meetings/collaboration between teachers of each program for managing the transition. As discussed earlier, 1) cross-program interactions among teachers including both informal and formal meetings and 2) cross-program involvement were the core components of the theme of cross-program interaction/involvement.

Fourth, consistent with the survey findings, the case studies showed that articulation is a key vehicle for program transitions. More than 80% of the 235 IB coordinators indicated that they need 1) published MYP vertical and horizontal articulation documents and 2) IB published articulation documentation. As discussed in the previous chapter, articulation through documentation was one of key leadership and management strategy for program transitions. Also, some key administrators in the case schools pointed out that they need more concrete guidelines such as IB published articulation documentation.

…we need a standard-based articulated curriculum, we don’t have it. Unfortunately nothing is done to help us. We want whatever IB can provide for us in terms of its continuum (Head, School 3).
Give the schools at least a starting framework in which they can tweak and make their own...I would propose, maybe, not every school, maybe three programs schools in the future would have to invent and to see how they are going to articulate the IB program (Principal 2, School 3).

There is no articulation and there must be articulation because school should not be accredited if there is no articulation between programs...I think the IB can make the linkage. They kind of expect school to recreate all the times. You know, I am concerned that teachers have been spending too much time creating curriculum, all the time. They should not. Curriculum should be set [by IB] and in every five years to be reviewed (DP teacher, School 5).

5-3. Survey Findings More Elaborated or Explained by Interview Data

There were a series of the survey findings that can be more clearly explained or supported by our interview data. Let us briefly describe those findings.

First, the IB survey data indicated that coordinators from partial-continuum schools (e.g. schools not having the full continuum) tended to indicate somewhat lower evaluations of the MYP-DP transition than coordinators working for the full continuum schools. While the difference was statistically significant, the survey data did not provide any further information to explain this finding. Drawing from our qualitative data, we provide one feasible explanation regarding the finding—i.e. IB schools having the full continuum program are more likely to have an opportunity to facilitate cross-program fertilization through cross-program interaction and involvement as our case schools demonstrated. If this is the case, IB schools having the full continuum are more likely to bring some benefits that help program transitions through facilitating cross-program fertilization. Having the three programs would not necessarily be beneficial per se in the sense that more tensions or inconsistency may be embedded between each linkage of the three programs. However, as the case studies revealed, cross-program interaction/involvement was commonly and highly exercised in the case schools with the full continuum. This suggests that, as long as school leadership emphasizes cross-program interaction/involvement as a key strategy for program implementation, schools having more programs or the full continuum are likely to have such cross-program interactions among staff, which sheds some light on explaining why coordinators from full-continuum schools were more likely to indicate somewhat higher evaluations of the transition than coordinators working for partial-continuum schools.

Second, the IB coordinators from the survey indicated that IB schools need changes in terms of assessment. Specifically, more than 60% (and less than 70%) of the IB coordinators indicated that they need the following changes for improving the MYP-DP
transition: 1) standardized internal MYP assessment tasks and 2) access to a wider range of assessment tools in the DP. The reason why they need those changes seems to be somewhat implicitly reflected in the following excerpt:

I think the assessment looks so different in each of the three programs. It really should be different…And it’s really hard in MYP for new teachers to really understand the assessment. I think that’s one of the hardest aspects to come to grips with. I think that’s what people find difficult between MYP and DP. There’s more of the primary school approach to assessment in MYP, that’s my statement on that. And I think that’s where a lot of schools have a lot of problems with the DP…(Head, School 2).

Third, there were also some differences between the Asia-Pacific and other regional IB schools from the survey data. Specifically, there were significant differences between them in terms of learning culture, monitoring/assessment, and changes needed. Specifically, the IB schools in the Asia Pacific region seem to have a more test-oriented learning culture and thereby having different changes needed for the transition. The IB coordinators from the Asia Pacific schools tended to view “less content in DP” as a more important change needed. In a similar vein, they were less likely than other IB coordinators to view “external MYP exams” as important. They were less likely to characterize that their DP learning culture places an emphasis on student inquiry. This phenomenon can be explained by local contexts facing IB schools in the Asia-Pacific region. As discussed earlier, socio-cultural factors embedded in local contexts that clearly impact the work of teachers and implementation of the IB curriculum. As our qualitative data pointed out, socio-cultural factors embedded in local contexts function as challenges.

A lot of Asian populations come from countries that are very exam-oriented. And so the inquiry-based learning process and project-based learning is something initially frankly unsettled to some of those populations, especially the PYP…So there’s a lot of parent education that has to occur…I think, their [parents] stress and strain is more of “oh there is no exam so how can we know that kids are learning?” that kind of thing or “oh there is no exam so how can we know that it is rigorous?” “My kid should be stressed out for exam” or “if they do not have that type of academic experience, they must not be working hard or something.” So there’s a lot of education that goes with that (secondary school principal, School 2).

As the excerpt illustrates, parents’ different pedagogical understandings deeply
imprinted by local education systems and cultures seem to force Asian IB schools to have more external exams and thereby subject contents as a key part of learning. It should be recalled that even though the five case schools are international schools, a majority of students are from either the host country (e.g. Vietnam, Thailand, Hong Kong, and China) or other Asian countries (e.g. Korea and Japan) where high-stakes exams are by large dominant in their education systems. As a reaction or response to such local contexts, Asia-Pacific IB coordinators in the survey seemed to place more emphasis on the need for fewer external MYP exams and less content in DP.

5-4. Nuanced Differences

While there were no dramatically different findings between the IB survey and the case studies, there were several nuanced differences. First, while both the survey and interview data show that DP is regarded as more content-driven and prescriptive (i.e. not so inquiry-based) in general, some interviews with DP students provide a different picture showing that DP is carried on in a way of inquiry-orientation and the way that DP actually unfolds depends somewhat on teachers and subjects. This suggests that the inquiry-based learning for DP can be possible based on how teachers teach and what subjects are taught. In this sense, the nature of DP may not necessarily be a far cry from inquiry-based learning.

Interviewer: Do the teachers teach the same way? [between MYP and DP]

DP student 1: I think the difference in teaching [between MYP and DP] is significant because this year a lot of our teachers keep saying independent learning skills…They do teach us but then they step back and they try to let us learn by ourselves. Well, last year we were taking notes on what they told us (DP student 1, School 1).

DP student 4: Spoon-fed (DP Student 4, School 1).

Interviewer: MYP was more spoon-fed? Tell me again. The inquiry process seems to be used more in the DP than in the MYP.

DP student 2: Yes, I take Higher History. Last year [MYP] we were taught about the Middle East and we were taught exactly events. We focused on a couple of events and we only learned about them. This year [DP] I have to learn about the Cold War and it is such a wide frame and I can focus on what I want to learn. I mean we have to know the important facts but there is time to learn to focus on
what we want to know. So I think there is more independent work this year [in DP] (Student 2, School 1).

DP student 7: I take Higher Bio…After my teacher gives this amount of information, we start to discuss about specific topics and the more we talk about, the more we find things that were missed out. So we get to learn things more sometimes. So I think it all depends on the way the teacher teaches. Some teachers want us to work as individual and as a group. And when you learn as individual, you get to be more independent and you get to be more motivated in studying…(Student 7, School 1)

DP student 2: His Bio teacher is actually a Standard Chemistry teacher as well and whereas he seems to love group working, Bio and Chem are a lot more of just getting the facts thrown at us because it is Standard versus Higher. For a Standard we can’t really going into depth about stuff because we have to know the base of it. I know the Chemistry teacher keeps telling us they can’t really give us a time to explore it so much, they just need to say OK this is what you need to know (Student 2, School 1)

DP student 6: It depends on the subjects (Student 6, School 1)

DP student 5: But I also think that it depends on the level of subject you are taking because some… subjects only offer in standard levels…(DP Student 5, School 1).

The series of dialogue above implicitly suggest that drawing a sharp line between MYP and DP by inquiry-based learning may not be necessarily correct. Rather, inquiry-based learning can be made in DP through more independent work with deep subject contents. Conversely, inquiry-based learning may not be done in MYP especially when MYP touches on wide topics at a basic level and in the form of group work where some students may not take serious ownership in their inquiry-based learning. This also suggests that the occurrence of inquiry-based learning may depend more on the way teachers unfold subject contents and the nature of subjects. This phenomenon is echoed in some students’ preference of DP to MYP because DP provides a more structured and in-depth way of learning what they want to study.

DP student 4: …this year [DP] everything is based on the syllabus…But a problem [in MYP] seems to be that when you have different teachers for the
same class, for the same subjects, people tend to have gray areas of what to know for the exam. In IB, everything is according to the syllabus and you know what is going to come out and it has. And you know what to study before, but in MYP, sometimes there are three teachers in the Science classes with three different teachers, then some teachers might teach some topic more than the other teacher and some teachers teach more depth than other, or other areas where the other one does not teach. So we are in the gray area what do we exactly have to know for the MYP. While in the IB [DP], everything just follows the syllabus (DP student 4, School 1).

Interviewer: What do you like? What do you prefer?

All DP students: Syllabus (School 1)

Interviewer: So would you like during the MYP to have more structured of what you have to know?

All DP students: Yes (School 1)

Interviewer: Let me rephrase that question just a little bit, so rather than which do you ‘prefer’…which would you find more interesting and stimulating the learning?

All DP students: IB [DP] (School 1)

The second nuanced difference between the survey and the case studies was the different level of emphasis on backwards mapping and documentation as an articulation tool. The survey data indicated that backwards mapping of curriculum has been done for managing the transition—52% of the coordinators. The survey data indicated that developing vertical and horizontal articulation documents for subjects was a core component of school strategies for successful transition—57% of the coordinators. While these two articulation approaches were identified across the case schools, it should be noted that backwards mapping was the most salient and common approach for articulation and also documentation was another key approach to articulation across the schools. In brief, the case schools utilize relatively more and place more emphasis on backwards mapping and documentation for articulation.
6. CONCLUSION

The commonly identified success factors from both the quantitative and qualitative data provide important implications for IB program implementation and transition. We view such success factors as ‘connectors’ that enhance coherence and consistency in IB program implementation and transition. For IB school leaders and educators, we suggest six key connectors based on our findings from both of the datasets—i.e. structural, intellectual, cultural, communicative, political, and professional connectors. While some of the connectors could be somewhat overlapped with each other in the real context, they can also be conceptually distinguished from each other.

First, structural connectors refer to linkages that bridge program demands and the structural realities of school life. Structural connectors include purposive timetabling for staff interaction, shared staff rooms, staff lunch, small school size, adult advisory systems, and student-run tutorial systems. IB school leaders may need to ask themselves the following questions to create such structural connectors.

- How can we connect the thrust/demands of the three programs with the structural realities of schools? (students/teachers/leaders)
- Do certain structural changes (e.g. class size, school size, location of school buildings, timetabling, organizational chart, teacher workload, etc.) need to be addressed before the full continuum program is implemented?
- Should we stop—think—and consolidate the programs before introducing any new initiatives?

Intellectual connectors refer to linkages that bridge between the purposes, thrust and content both within and between different programs in a consistent and coherent way. Intellectual connectors include several articulation approaches (e.g. backwards mapping and documentation) and cross-program interaction/involvement. These connectors help to connect the programs by linking, supporting and reinforcing each other. Specifically, the connectors attempt to design more coherent and consistent IB programs in terms of curriculum continuum, pedagogical approach, and assessment. Also, the connectors contribute to building a shared, common understanding and interpretation of the three IB programs. The following questions would be helpful for IB school leaders in molding such intellectual connectors.

- How do we connect the programs so that they link, support and reinforce each other, rather than appearing as separated, if not contradictory and competing entities?
- How can we connect the demands within specific IB programs together so that they are more consistent with each other?
- How can we design more coherent and consistent IB programs in terms of curriculum continuum, pedagogical approach, and assessment?
- How can we build a shared, common understanding and interpretation of the
different IB programs?

- What kinds of articulation approaches do we have and need for better program implementation and transition?
- How to facilitate cross-program interaction/involvement?

Cultural connectors refer to linkages that bridge between the cultural values underpinning programs and pedagogies and those of diverse community/student populations. The connectors include parent education/meetings. For example, by providing substantial parent education/meetings, the case schools attempted to connect the IB programs with the dominant/diverse cultural values, and to change norms (e.g. exam-oriented perspective) which underpin life in societies and schools. We suggest the following questions to provoke ideas for IB school leaders in forming such cultural connectors.

- How to connect the programs with the dominant/diverse cultural values, beliefs and norms which underpin life in societies and schools?
- Do school leaders consider carefully enough how their suggested initiatives fit the local culture and context?
- How do we connect with local communities to provide clearer understanding of and across IB programs?

Communicative connectors refer to channels that carry proposed IB program processes and outcomes to key stakeholders within and outside the school. With respect to key stakeholders within the school (e.g. staff and students), communicative connectors include cross-program interaction/involvement among staff, cross-program interaction among students, pastoral support for students, multiple positioning, and position switching. With respect to key stakeholders outside the school, communicative connectors include parent education/meetings that connect the meaning, purpose and detail of the programs to local parents and community. The questions below are suggested to provoke ideas for generating communicative connectors.

- How to connect the meaning, purpose and detail of the programs among key stakeholders (IB, teachers, parents etc.)?
- Do we all have enough information about the success/failure/pitfalls of and across IB programs?
- Is understanding more than a common schema?

Political connectors, at the macro-level, refer to linkages that bridge between programs and schools and broader IB governance and political structures. At the micro-level, political connectors refer to linkages between programs and content areas and cross-functional groups within schools. With respect to macro-level, political connectors include IB published documents on articulation and greater recognition of MYP and DP from universities. At the micro-level, political connectors include cross-program cooperation and involvement that integrate competing interests from different groups within
schools into common visions and interpretations of IB programs. The following question would be helpful for IB school leaders in relation to political connectors.

- How do we connect different programs with/from political realities and competing interests?

Finally, professional connectors refer to linkages that bridge between the skills, knowledge and capacities required to make the programs work and the shape structure and effectiveness of professional learning opportunities provided. Professional connectors include professional development opportunities including regular workshops, cross-program training activities, multiple positioning, and position switching that make IB programs work (together) better. The following questions would be helpful for IB school leaders in molding such professional connectors.

- Are IB teachers/teachers receiving sufficient relevant opportunities to develop the skills, knowledge and capacities needed to make IB programs work (together) better?
- What kind of professional learning opportunities are provided and how connected are they to work in an IB school?
- Do IB leaders play a role as a catalyst in formulating professional learning communities within and between IB schools?

Importantly, all these connectors are generated from leadership and management. Proactive leadership and responsiveness to problems and concerns, which emerged in the full continuum schools, create emergent strategies to support program implementations and transitions. In particular, more effective transitions take place when leadership deliberately facilitates coherence and consistency across programs by introducing, implementing, and combining different connectors discussed above.

In addition to the implications for IB school leaders and teachers above, we suggest some practical implications for IB based on our findings. First, learning approaches in PYP and MYP are developmentally appropriate, backed by current theory and research and suited to today’s world. Second, both the survey and case studies clearly indicate the presence of disconnections between MYP/DP as problematic. Third, focusing on transition strategies between programs is important, but at the same time, it is important to capture and recognize the larger problem of the need for change in DP.

Another more profound implication for IB is retrieved from the connection issue discussed above. We believe that the connection issues within IB schools are echoed in connection issues between IB and IB schools. In particular, IB may need to take a closer look at the flip side of the six connectors—i.e. the six types of disconnection between IBO and IB world schools. The following excerpts presented earlier show how IB school teachers and administrators feel a sense of disconnection from IB.
…we need a standard-based articulated curriculum, we don’t have it. Unfortunately nothing is done to help us. We want whatever IB can provide for us in terms of its continuum (Head, School 3).

Give the schools at least a starting framework in which they can tweak and make their own…I would propose, maybe, not every school, maybe three programs schools in the future would have to invent and to see how they are going to articulate the IB program (Principal 2, School 3).

There is no articulation and there must be articulation because school should not be accredited if there is no articulation between programs…I think the IB can make the linkage. They kind of expect school to recreate all the times. You know, I am concerned that teachers have been spending too much time creating curriculum, all the time. They should not. Curriculum should be set [by IB] and in every five years to be reviewed (DP teacher, School 5).

And if anything that I criticize the IB is that principally it looks basically the same for the 12th year and it does not use distinctly, it does not engage; every time I look at it, I do find new things but it’s not put together in a way that draws people and makes them want to engage with it. And it is, they will say at the moment they will issue …I think the IB needs to get more professionalized in terms of really showing what does school look like (PYP coordinator, School 5).

Whereas the case schools were successful to some extent in program transitions, at the same time, however, they were still coping with issues related to program transitions partly because of disconnection between them and IB as the excerpts show. As Walker (2006) pointed out, many programs and innovations such as IB programs are, in-and-of themselves, beneficial. But when parceled together at speed in IB schools, the three IB programs could become unwieldy and disconnected. As a result, they could become less successful individually as well as collectively although there are obviously ‘stories of success’ identified from the case schools. In particular, both the survey and the case studies show that the lack of alignment of assessment tools and philosophy embedded in PYP/MYP with DP is a critical issue facing IB schools. Thus, the alignment issue between the programs should be addressed without losing the quality of DP. Providing more clear guidelines for IB schools seems to be critical.
References


**Appendix 1. Observing a classroom**

<table>
<thead>
<tr>
<th>School/Teacher:</th>
<th>Observer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program: PYP / MYP / DP</td>
<td>Grade:</td>
</tr>
<tr>
<td>Date:</td>
<td>Time In:</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase of Instruction</th>
<th>Description of Activity</th>
<th>Student(s) Responses</th>
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<tbody>
<tr>
<td>Pre-Lesson</td>
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</table>

| During Lesson        |                          |                      |

| Post-Lesson          |                          |                      |

**Reflections/Analytical Notes**

What did you observe that you expected to see?
What did you observe that was unexpected?

What were the most important events or behaviors you observed?

What key point about your observation would like to stress in class?

What is the most important question raised by your observation?

*This observation sheet was borrowed and reconstructed from Provenzo and Blanton’s (2006) *Observing in Schools*, Boston: Pearson Education.*
### Appendix 2. Key interview questions for students

<table>
<thead>
<tr>
<th>Category</th>
<th>Questions</th>
</tr>
</thead>
</table>
| **Learning Culture**                          | • What’s it like to be a learner of the school?  
• What do you think of learning culture in your classroom?  
• What do you think is good for your learning in this culture/environment?  
• Are there some different culture compared to when you were in MYP? |
| **Management Type**                           | • What has been done by teachers or school to help you to adapt to DP?  
• Are these helpful for your learning in DP?  
• What do you do to go with this change? |
| **Challenges and changes in the MYP-DP transition** | • What’s it like in your daily learning, before and after the transition (MYP to DP)?  
• Are there any differences before and after the transition? If so, what are they? What do you think about them?  
• Have you got any troubles during the process of the transition?  
• Do you enjoy this new learning environment? If so, why? If not, why? |
| **Monitoring and Assessment**                 | • How do you feel the way you’ve been assessed?  
• Are these assessments useful or helpful for improving your learning? |
| **Differences and Similarities: Asia Pacific vs. others** | • Why did you choose IB?  
• Up to now, do you think IB curriculum is good for your learning? How and why? |
## Appendix 3. Key interview questions for coordinators

<table>
<thead>
<tr>
<th>Coordinators</th>
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<tbody>
<tr>
<td><strong>Learning Culture</strong></td>
</tr>
<tr>
<td>• Tell us about the learning culture in your school.</td>
</tr>
<tr>
<td>• What do you view as strengths and weaknesses of the IB curriculum as used in your school?</td>
</tr>
<tr>
<td>• Tell us about how you perceive the goals of the MYP and DP curricula.</td>
</tr>
<tr>
<td>• Are there any differences in learning cultures between MYP and DP as they are implemented in your school? If so, how are they different? Why?</td>
</tr>
<tr>
<td><strong>Management Type</strong></td>
</tr>
<tr>
<td>• What are some of the transition issues that you have experienced as student move between MYP and DP?</td>
</tr>
<tr>
<td>• What strategies or policies have you implemented to support the transition? If so, how did those evolve in your school?</td>
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<tr>
<td>• Which of these seem to have been most successful in your judgment? Why?</td>
</tr>
<tr>
<td>• How do you personally work with your staff to make the transition successful?</td>
</tr>
<tr>
<td><strong>Challenges and changes in the MYP-DP transition</strong></td>
</tr>
<tr>
<td>• Looking back what were some of the earlier problems that you may have experienced in helping students make the transition from MYP to DP</td>
</tr>
<tr>
<td>• What changes have been made at the school level for dealing with those problems?</td>
</tr>
<tr>
<td>• How would you characterize the remaining challenges in this area?</td>
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<tr>
<td>• What changes ought to be made in the future?</td>
</tr>
<tr>
<td><strong>Monitoring and Assessment</strong></td>
</tr>
<tr>
<td>• What kinds of tools are used for monitoring and assessment in MYP and DP in your school?</td>
</tr>
<tr>
<td>• Which of them are most useful? Why?</td>
</tr>
<tr>
<td>• Do you think particular tools are more appropriate for either MYP or DP? If so, why?</td>
</tr>
<tr>
<td><strong>Differences and Similarities: Asia Pacific vs. others</strong></td>
</tr>
<tr>
<td>• At your school, do students from different cultural backgrounds respond similarly or differently to the IB curriculum? Could you give some examples?</td>
</tr>
<tr>
<td>• If you have been working in more than one IB school, located in different regions, tell me whether there are any differences between the current school and the previous one?</td>
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<tr>
<td>• Is there anything else you would like to share with us?</td>
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### Appendix 4. Key interview questions for teachers

<table>
<thead>
<tr>
<th></th>
<th>Teachers</th>
</tr>
</thead>
</table>
| **Learning Culture**      | • Tell me about the approaches to learning and teaching that you use in your classrooms.  
  • Transition between programs in IB is an issue of concern in many schools. How successful do you feel the transition is managed in this school? Why?  
  • What differences in approaches to learning do you experience in teaching between MYP and DP? Examples? |
| **Management**            | • How is the transition actually managed by teachers in your school?  
  • Are there particular management strategies implemented at the school level that address the transition?  
  • Which ones are most effective?  
  • Are there things that could be done that are not being done which might facilitate better transition between programs? |
| **Challenges and changes in the MYP-DP transition** | • What challenges do you face in the transition?  
  • Are there any differences between how students in the MYP and DP respond to the curriculum? If so, how?  
  • How do you manage THESE differences between MYP and DP, if any?  
  • Do you consciously use different teaching methods in MYP and DP, respectively? How and why? |
| **Monitoring and Assessment** | • What kinds of tools are used for monitoring and assessing learning in your classroom?  
  • Which of them are most useful? Why?  
  • Do you have any plans/criteria for using some particular tools for either MYP or DP? How and why?  
  • Do you think particular tools are more appropriate for either MYP or DP? If so, why? |
| **Differences and Similarities: Asia Pacific vs. others** | • What's special in terms of your school's location and the student intake?  
  • If you have been working in more than one IB schools, located in different regions, tell me whether there are any differences between the current school and the previous one?  
  • How do you feel the differences?  
  • Which is better for you? Why?  
  • Which is better for student learning? Why? |
## Appendix 5. Key interview questions for principals

<table>
<thead>
<tr>
<th><strong>Principal</strong></th>
<th><strong>Learning Culture</strong></th>
</tr>
</thead>
</table>
| **Management Type** | • Tell us about the learning culture in your school.  
• What do you view as strengths and weaknesses of the IB curriculum as used in your school?  
• Tell us about how you perceive the goals of the MYP and DP curricula.  
• Are there any differences in learning cultures between MYP and DP as they are implemented in your school? If so, how are they different? Why? |
| **Challenges and changes in the MYP-DP transition** | • What are some of the transition issues that you have experienced as student move between MYP and DP?  
• What strategies or policies have you implemented to support the transition? If so, how did those evolve in your school?  
• Which of these seem to have been most successful in your judgment? Why?  
• How do you personally work with your staff to make the transition successful? |
| **Monitoring and Assessment** | • Looking back what were some of the earlier problems that you may have experienced in helping students make the transition from MYP to DP  
• What changes have been made at the school level for dealing with those problems?  
• How would you characterize the remaining challenges in this area?  
• What changes ought to be made in the future? |
| **Differences and Similarities: Asia Pacific vs. others** | • What kinds of tools are used for monitoring and assessment in MYP and DP in your school?  
• Which of them are most useful? Why?  
• Do you think particular tools are more appropriate for either MYP or DP? If so, why? |
| | • At your school, do students from different cultural backgrounds respond similarly or differently to the IB curriculum? Could you give some examples?  
• If you have been working in more than one IB school, located in different regions, tell me whether there are any differences between the current school and the previous one?  
• Is there anything else you would like to share with us? |
Appendix 6. Qualitative data collection plan

<table>
<thead>
<tr>
<th>Target groups (for interviews)</th>
<th>Time allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Vice-Principals</td>
<td>30 minutes</td>
</tr>
<tr>
<td>IB coordinators</td>
<td></td>
</tr>
<tr>
<td>PYP</td>
<td>30 minutes</td>
</tr>
<tr>
<td>MYP</td>
<td>1 hour</td>
</tr>
<tr>
<td>DP</td>
<td>1 hour</td>
</tr>
<tr>
<td>Teachers (3 focus groups)</td>
<td></td>
</tr>
<tr>
<td>PYP teachers</td>
<td>1 hour</td>
</tr>
<tr>
<td>MYP teachers</td>
<td>1 hour</td>
</tr>
<tr>
<td>DP teachers</td>
<td>1 hour</td>
</tr>
<tr>
<td>Students (1 group)</td>
<td></td>
</tr>
<tr>
<td>1st year in DP</td>
<td>1 hour</td>
</tr>
<tr>
<td>Observation</td>
<td></td>
</tr>
<tr>
<td>1 PYP classroom</td>
<td>30 minutes</td>
</tr>
<tr>
<td>1 MYP classroom</td>
<td>1 hour</td>
</tr>
<tr>
<td>1 DP classroom</td>
<td>1 hour</td>
</tr>
<tr>
<td>Total hours</td>
<td>10 hours</td>
</tr>
</tbody>
</table>

Note: While we planned to interview three teacher groups by the three programs, it should be noted that many of the teachers belonged to more than one program.