Evaluation of the Ontario Ministry of Education’s Differentiated Instruction Professional Learning Strategy

Request for Services – No. 661

Final Report

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Executive Summary

Since 2003, the Ontario Ministry of Education’s Student Success/Learning to 18 Strategy has focused on:

- keeping more young people learning to age 18 or graduation;
- reducing the number of students dropping out of secondary school;
- improving student achievement and graduation rates;
- re-engaging youth who have left school without graduating; and
- providing effective programs to prepare students for their post-secondary pathway.

One of the major multi-year initiatives of the Student Success/Learning to 18 Implementation, Training and Evaluation Branch (SS/L18 ITEB) is the Differentiated Instruction Professional Learning Strategy (DIPLS), which focuses on preparing educators to identify and meet the needs of all students through effective instruction.

The DIPLS was put in place in 2007. The overall intent of the DIPLS is to foster instructional, assessment and evaluation practices that support student engagement, learning and academic achievement for all students in Ontario schools.

The key goals of the DIPLS are to:

- expand upon the instructional knowledge and skills of educators of grades 7-12 as they respond to the learning needs of all students;
- build awareness and knowledge of DI as a framework for planning and implementing effective instruction, assessment and evaluation practices as they are outlined in the Ontario curriculum; and
- facilitate and support job-embedded professional learning opportunities through collaborative inquiry.

The strategy consists of a phased-in approach to implementation to first include teachers in grades 7 and 8, and later extend in successive years to grades 9 and 10, and most recently grades 11 and 12. This phased-in approach allows the Ministry to focus its support and the development of professional learning resources. Since 2009, the DIPLS has promoted tri-level (i.e., ministry, board, school) collaboration to foster the development and use of DI-knowledgeable facilitators to work with teams of educators through job-embedded learning opportunities. The emphasis in 2010-11 was for the province to deepen the implementation of differentiated instruction by explicitly integrating instruction, assessment, and evaluation practices in the classroom to meet the needs of all students.

The DIPLS consists of two layers of implementation:

- layer one - provincial implementation, which involves all school boards; and
- layer two - regional project sites (referred to as ‘project boards’), which involve twelve school boards from the six regions of the province that have agreed to participate in the DIPLS (Grades 7-12).

The University of Ottawa evaluation team was chosen by the Ministry to conduct a tri-strand evaluation of the DIPLS. The overarching objectives of the current evaluation are to determine:
In order to meet these objectives, we created an evaluation design consisting of three strands. This approach facilitates an in-depth, rigorous exploration of the impact of the DIPLS within the complex contextual elements that comprise its implementation and uptake. The strands are as follows:

- Strand I: Concept Mapping
- Strand II: Provincial Differentiated Instruction Survey
- Strand III: Multiple Case Study

**Strand I: Concept Mapping**

In order to explore the impact of DIPLS from the perspective of DI-knowledgeable facilitators, administrators, and educators involved in DIPLS, a web-based concept mapping approach was selected as Strand I of the evaluation. These data served as an important source of evidence regarding the contribution of the DIPLS to outcomes and also provided us with a relevant and rich basis from which to inform the subsequent strands of the evaluation which took place concurrently; namely the provincial survey of teachers and multiple-case study. Overall, 37 educators, administrators and board personnel from 6 of the 12 project boards participated in concept mapping (21 teachers, 5 administrators and 11 board personnel).

**Strand II: Provincial Differentiated Instruction Survey**

The purpose of the survey was to assess the perceptions of educators, administrators, and board personnel regarding the process of the DIPLS, the outcomes of the DIPLS, and their efficacy related to DI. The survey provides broad evidence of outcomes related to teacher awareness and implementation of DI, teacher self-efficacy as well as the perceptions of participants regarding student engagement and achievement. A total of 4875 teachers, 820 administrators and 313 board personnel completed the survey. Representation from approximately 97% of English public boards and 100% of Catholic boards was received although rates of participation within boards varied widely.

**Strand III: Multiple Case Study**

Case studies were conducted in 5 boards across the province, representing 5 different regions (North Bay/Sudbury, Barrie, Ottawa, Toronto, Thunder Bay). Typically one or two schools within the board participated in the case studies. Within each school and board, focus groups were conducted with students \( n = 56 \) and teachers \( n = 46 \); key informant interviews were conducted with administrators and board personnel \( n = 20 \). Efforts were made to ensure that these schools represented a range of experience and expertise with DIPLS as well as variation with respect to geographic location, school type (7-8, 9-12, 7-12; public/Catholic), student performance and achievement outcomes (e.g. EQAO levels).

In-depth analyses of the quantitative (concept mapping and survey) and qualitative (case study) data were performed in order to identify key findings. The findings were then used to address the specific evaluation questions posed by the Ministry integrated across data methods. Key findings within the main three areas of the evaluation follow.

**State of Implementation of Differentiated Instruction**

What is clear in the first instance is that incredible variation exists both within and between classrooms, schools and boards across the province with respect to awareness, understanding and implementation of DI. In many classrooms in the province, teachers felt confident
implementing DI and had the ongoing support of colleagues and mentors within their school and board. Some boards have created professional development opportunities that are responsive to the needs of teachers and administrators. In others, however, teachers were unsure of the goals and elements of DI and saw little evidence of a shared investment in the framework by their colleagues and leadership.

Looking across this range of experiences and settings, several key findings emerged. While teachers are certainly aware of DI, many lacked a real understanding of what it entails and how it might apply to their specific grade or subject. We also found that in fact, most teachers were implementing DI strategies including flexible grouping and choice in their classrooms. Some, however, were unsure as the deeper implications and rationale for these. Misconceptions surrounding DI, such as its incompatibility with senior academic classes, play a role in this confusion.

Teachers, administrators and board personnel agreed that developing DI practice takes time: time to share and plan with colleagues, time to get to know the interests, learning preferences and readiness of their students, time to develop subject- and grade-specific lessons, and time to create assessments that allow students to shine but also reflect knowledge and effort. Some teachers also felt that in implementing DI, they had experienced an increased workload and in fact had less time that they have had previously. Certainly the greatest impediment to DI implementation listed most often by all participant groups was time.

**Impact of the DIPLS**

The findings indicate that many teachers were integrating elements of DI in their practice and were doing so frequently. In particular, those who felt confident in their ability to implement DI and also believed that student learning and engagement would improve as a result of DI, were doing so with more frequency. Those teachers who had taken part in more DIPLS activities, and who had done so more often, were implementing DI significantly more often than their colleagues. This is an indication that the professional learning that teachers have engaged in has had a positive impact on their practice.

It was also found that most teachers, administrators and board personnel believed that when DI was implemented, students experienced more positive outcomes as a result. Students were perceived as more engaged in their learning, and were seen as performing better academically as well as developing more confidence and self-esteem as learners. Those teachers who took part in DIPLS activities, who held more positive beliefs about DI, and who had more confidence in implementing DI, also perceived more positive impacts of DI on students. Clearly when educators see the positive impact of any strategy or initiative on their students, their continued development and implementation is greatly increased.

**Effectiveness of Ministry Implementation of the DIPLS**

With respect to professional learning, teachers, administrators and board personnel expressed that while most often taking part in one-time workshops, what they valued most was DI-focused collaboration and mentoring with colleagues and DI-knowledgeable leaders. Teachers appreciated the value of resources such as DI Teaching/Learning Examples as assisting them in lesson development. In contrast, however, administrators and board personnel believed that DVDs were the most effective; these areas of contrast serve as potentially fruitful areas of discussion within schools and boards. Participants made several recommendations with respect to improving DI professional learning – most commonly the need for individuals with expertise in DI who could provide ongoing classroom-based support. Finally, many educators expressed a belief that professional learning in the area of DI needed to continue, albeit in a more subject-specific, collaborative, job-embedded fashion with a focus on secondary teachers in particular.
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Evaluation of the Ontario Ministry of Education’s Differentiated Instruction Professional Learning Strategy

Context and Background

Since 2003, the Ontario Ministry of Education’s Student Success/Learning to 18 Strategy has focused on:

- keeping more young people learning to age 18 or graduation;
- reducing the number of students dropping out of secondary school;
- improving student achievement and graduation rates;
- re-engaging youth who have left school without graduating; and
- providing effective programs to prepare students for their post-secondary pathway.

One of the major multi-year initiatives of the Student Success/Learning to 18 Implementation, Training and Evaluation Branch (SS/L18 ITEB) is the Differentiated Instruction Professional Learning Strategy (DIPLS), which focuses on preparing educators to identify and meet the needs of all students through effective instruction.

The DIPLS was put in place in 2007. The overall intent of the DIPLS is to foster instructional, assessment and evaluation practices that support student engagement, learning and academic achievement for all students in Ontario schools. The DIPLS has been created with an understanding of effective elements of professional learning; that more than a one-day workshop or PD day\(^1\) is required in order to make real and sustainable change in teacher practice. Based on findings from research (Darling-Hammond & Richardson, 2009), the Ontario Ministry of Education recognizes the need for collaborative learning environments and communities of practice as well as a focus on student learning and active, ongoing involvement by educators in professional learning activities. These elements are integral to the DIPLS.

The key goals of the DIPLS are to\(^2\):

- expand upon the instructional knowledge and skills of educators of grades 7-12 as they respond to the learning needs of all students;
- build awareness and knowledge of DI as a framework for planning and implementing effective instruction, assessment and evaluation practices as they are outlined in the Ontario curriculum; and
- facilitate and support job-embedded professional learning opportunities through collaborative inquiry.

The strategy consists of a phased-in approach to implementation to first include teachers in grades 7 and 8, and later extending in successive years to grades 9 and 10, and most recently grades 11 and 12\(^3\). This phased-in approach allows the Ministry to focus its support and the development of professional learning resources. Since 2009, the DIPLS has promoted tri-level (i.e., ministry, board, school) collaboration to foster the development and use of DI-

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\(^1\) The term PD (professional development) Day rather than PL (professional learning) Day has been used throughout the document as this is term commonly used in the field

\(^2\) See Appendix A for the DIPLS logic model created by the Ontario Ministry of Education

\(^3\) See Appendix B for the DIPLS Timeline and Layers of Implementation
knowledgeable facilitators to work with teams of educators through job-embedded learning opportunities. The emphasis in 2010-11 was for the province to deepen the implementation of differentiated instruction by explicitly integrating instruction, assessment, and evaluation practices in the classroom to meet the needs of all students.

The DIPLS consists of two layers of implementation:

- layer one - provincial implementation, which involves all school boards; and
- layer two - regional project sites, which involve twelve school boards from the six regions of the province that have agreed to participate in the DIPLS (Grades 7-12).

Throughout the report, these ‘layer two’ boards are referred to as ‘project boards’.

In February, 2011 the Ministry approved the proposal for a tri-strand evaluation of the Differentiated Instruction Professional Learning Strategy (DIPLS) developed by the University of Ottawa team. The overarching objectives of the current evaluation are to determine:

- the extent to which the outcomes for the DIPLS have been achieved;
- the impact of DIPLS on instructional practice; and
- the effectiveness of Ministry implementation of the DIPLS.

In order to meet these objectives, we created an evaluation design consisting of three strands. This approach facilitates an in-depth, rigorous exploration of the impact of the DIPLS within the complex contextual elements that comprise its implementation and uptake. The strands are as follows:

- Strand I: Concept Mapping
- Strand II: Provincial Differentiated Instruction Survey
- Strand III: Multiple Case Study

This report details the three strands in terms of their contribution to the overall evaluation, their methodology and analyses as well as existing limitations of the evaluation. Next, the findings drawn from the various data sources are integrated in response to the evaluation questions agreed the Ministry to guide this evaluation. A synthesis of overall findings concludes the report.

The evaluation questions are as follows; note that these were revised following the original Request for Services in consultation with the Ministry.

1. **State of Implementation of Differentiated Instruction**
   1-1. What does the practice of differentiated instruction look like in Ontario classrooms Grades 7-12?
   1-2. To what extent are teachers (7-8, 9-10, 11-12) practicing differentiated instruction?
   1-3. To what degree is there an awareness and understanding of differentiated instruction at the classroom, school and board levels?
   1-4. What factors enhance or impede the implementation of DI?

2. **Impact of the DIPLS**
   2-1. What impact has the DIPLS had on instructional practice?
   2-2. What impact has the DIPLS had on student engagement, performance and achievement outcomes?
   2-3. To what degree has the DIPLS had an impact on teaching and learning practices and culture at the classroom, school and board levels?
   2-4. What unintended outcomes were observed?

3. **Effectiveness of Ministry Implementation of the DIPLS**
   3-1. How have schools and boards implemented differentiated instruction?
   3-2. To what extent is implementation of differentiated instruction mediated by school- and board-level context variables?
3-3. What resources provided by the Ministry have been the most and least effective in the implementation of differentiated instruction at the classroom, school and board levels?

3-4. What approaches and/or strategies for planning and professional learning have been the most and least effective in the implementation of differentiated instruction at the classroom, school and board levels?

Methods and Analyses

1.0 Strand I: Concept Mapping

To explore the impact of DIPLS from the perspective of DI-knowledgeable facilitators, administrators, and educators involved in DIPLS, a concept mapping approach was selected as Strand I of the evaluation. Given the varied geographic locations of the participants, a traditional face-to-face method of concept mapping was not possible. However, the availability of innovative technology in the form of web-based concept mapping (Concept Systems Incorporated, 2011) allowed for virtual participation by educators, administrators and board personnel within boards across the province. The flexibility of Concept System’s on-line methodology and software (Trochim, 1989) enabled maximum engagement from informants. Educators and administrators at the board and school levels were able to participate from geographically dispersed locations to express their thoughts about the various outcomes of DIPLS on their own boards, schools and classrooms. Participants drew from their own concrete experiences and observations to generate a detailed concept map of DIPLS impact on student engagement and achievement, on teacher practice, and on class, school and board cultures. The results allowed us to clarify the nature and relative strength of DIPLS effects from the perspective of these participants. These data served as an important source of evidence regarding the contribution of the DIPLS to outcomes and also provided us with a relevant and rich basis from which to inform the subsequent strands of the evaluation which took place concurrently; namely the provincial survey of teachers and multiple-case study.

1.1 Methods

1.1.1 Sample and Participants

The twelve DIPLS boards identified by the Ministry as regional DIPLS project sites were eligible for participation in the concept mapping phase. Although significant variation exists across and within boards, educators and administrators within the project sites have in-depth experience and expertise with the elements of the DIPLS and as such, can be considered key informants. Within these twelve boards then, DI-knowledgeable teachers and administrators at both board and school levels, were identified as potential participants in the concept mapping phase. However, involvement in concept mapping necessitated approval of each individual board’s research ethics committee. As a result, the first step was to review the procedures for research ethics approval in each board and determine those that allowed participation for last school year (May/June of 2011). Two boards were then removed from the list, as their research ethics deadlines had either passed or applications could not be completed before the end of the 2011 school year; this brought the total to ten potential project boards. Applications were submitted to the ten boards of which two were unable to process the file before the end of the school year due to high demand. Approval was secured from the remaining eight eligible school boards.
Following ethical research approval, the Student Success Leaders (SSLs) were contacted by the DIPLS evaluation team, to inform them of the concept mapping activity and ask them for their advice and assistance in identifying DI-knowledgeable personnel within their respective boards. These individuals are typically employed at the school board level although in smaller boards, they may be school-level administrators. Among many other roles and responsibilities, the SSLs provide support for DIPLS project sites. As such, they are very knowledgeable about DIPLS activities ongoing at schools within the board, as well as educators and administrators who are involved in these activities. Refer to Appendix C for a copy of a sample information letter that was distributed to SSLs.

There was some variation across the eight boards in terms of the responses from the SSLs. Some preferred to speak directly to their DI-knowledgeable “team”, (consultants, administrators, educators), about the project and to facilitate ongoing communication. Others requested that the DIPLS evaluation team speak directly to the school principals in participating schools. In general, the first approach garnered a stronger degree of interest and involvement in the project, and this was the approach in five of the eight approved boards.

Once the project received approval from the boards’ research ethics committees, an invitation was distributed to the SSLs to forward to their teams. To help promote involvement at what is a particularly busy time of year for potential participants, prizes were included in the invitation. Refer to Appendix D for a copy of the invitation.

1.1.2 Procedures

The concept mapping activity was conducted on-line, over a four-week period in May-June 2011. It consisted of three steps: brainstorming, sorting/rating, and interpretation. Each of these steps is described below:

1) Brainstorming – In the group brainstorming activity, participants were invited to participate via email invitation (as described above). Once they responded to the invitation, (clicked on the web link), this led them to the Concept Systems web-site, where they were prompted to read the letter of informed consent, indicate their acceptance, and sign in with a user ID. This led them to the Brainstorming homepage, where they responded to a “focus prompt”. The prompt was a statement that stimulated participants’ thoughts regarding the impact of DIPLS:

   *The Differentiated Instruction Professional Learning Strategy (DIPLS) has affected students, teachers, and/or administrators by...*

By completing the statement, this focus prompt stimulated brainstorming by 37 participants. They generated, in total, 170 statements about the impact of DIPLS. The DIPLS evaluation team then reviewed, as a group, all of the 170 statements. Duplicates were omitted, double-barreled statements were split up, typographical and grammatical errors were corrected, and similar statements were combined. As noted by Trochim (1989), it is best to reduce the list of statements to a more manageable number (i.e., less than 100). In this case, we determined that 60 was a reasonable and representative number of unique statements.

2) Sorting/ Rating – The list of 60 brainstormed statements then formed the input for the next phase: Sorting and rating. Participants from the brainstorming step were invited via email to participate; this activity was performed individually, and facilitated by on-line software. The exception to this approach was one board that decided in order to maximize participation, to complete both brainstorming and sorting/rating at a group DI meeting on individual computers. Additional participants for the sorting/rating were also invited via the SSL, who distributed email
invitations to their entire team, with the hope that new participants might join on this second round⁴.

Participants who responded positively to the invitation to participate in the sorting/rating activity then followed a link to the Concept Systems site where they were instructed to sort the 60 statements into virtual “piles” that "made sense" to them and to label each pile with a name that “describes its theme or contents”. By sorting the statements into piles or groups, participants decide how they are related and how they should cluster together according to a common meaning or conceptual relationship. Twenty-nine participants participated in this step. Once this was complete, they were asked to rate each of the statements on a 5-point Likert scale in order to indicate the relative contribution of DIPLS to each outcome statement. A total of 28 participants completed the rating step according to the following instructions:

<table>
<thead>
<tr>
<th>Please review each statement and rate the degree to which you think the DIPLS contributed to the identified effect. Use the following scale:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Contributed Not at all</td>
</tr>
<tr>
<td>2 – Contributed Somewhat</td>
</tr>
<tr>
<td>3 – Contributed Moderately</td>
</tr>
<tr>
<td>4 – Contributed Very Much</td>
</tr>
<tr>
<td>5 – Contributed Significantly</td>
</tr>
</tbody>
</table>

3) Concept Map and Interpretation – Concept Systems software was then used to calculate the results of the sorting/rating step, culminating in a representative “concept map” (see Figure 4 for the initial DIPLS concept map)⁵. On this map, the brainstormed statements were numbered individually, grouped, and graphically illustrated as clusters. These clusters were also numbered for ease of reference. SSLs, educators, and administrators who had participated in the previous sessions were then invited to attend a group meeting, in which they engaged in discussion to interpret the map. In order to promote participation and accommodate individuals’ schedules, two group interpretation sessions were held. The meetings were conducted as virtual conference calls using teleconferencing and Adobe Connect. In total, 24 educators, administrators, and SSLs participated in this interpretation step. During the interpretation sessions, participants were asked to examine the original DIPLS concept map that was created and to discuss how well they believed the statements within the clusters fit together and if there were any statements they believed would be better placed in other clusters or perhaps should form a new cluster. They were also asked to generate a name for each cluster that captured its meaning. The session was moderated by a member of our evaluation team in order to ensure that multiple perspectives were heard and explored and to verify agreement on the decisions made by the groups.

To ensure that the discussions of both groups were accurately captured, sessions were audio-recorded, the ‘chat’ log from Adobe Connect was saved and the two participating members of the DIPLS team kept careful independent notes. The results of the decisions made by both groups...

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⁴ As noted by Trochim (1989), it is “not necessary that all participants take part in every step of the process” (p. 3).

⁵ The statistical procedures used to generate this map are described in Section 3.3
groups as to the clusters and their names were combined and represented graphically as one “validated” DIPLS concept map using the procedures described below.

1.1.3 Instruments and Data Analysis

**Sorting**

To create the DIPLS concept map, the Concept Systems Software performs three statistical routines. First, the 60 sorted statements were mapped onto a similarity matrix, then, multidimensional scaling (MDS) was performed, and finally, the MDS results were subjected to a hierarchical cluster analysis (Anderberg, 1973; Everitt, 1980; Kane & Trochim, 2006; Trochim, 1989). These analyses generated a series of concept maps, which grouped individual statements on the map into “clusters of statements which presumably reflect similar concepts” (Trochim, 1989, p. 7). A number of these maps were then examined carefully by our evaluation team (specifically those with six to ten clusters); we assessed each map to determine which was the best visual representation, conceptually, of the DIPLS data and we agreed that eight clusters captured the themes well; we also believed that this map would facilitate fruitful discussion in the interpretation sessions.

**Rating**

The 60 brainstormed outcome statements were also rated on-line by the participants in order to indicate the relative contribution of DIPLS to each (N=28). The rating data were analyzed using the Concept Systems software to determine the average ratings for each cluster (i.e., average of item ratings within clusters). A “pattern match” display was created, comparing average cluster ratings across two different groups of participants – teachers and administrators (both board and school-level).

1.2 Results

1.2.1 Participant demographics

Overall, 37 educators, administrators and board personnel participated in at least one phase of the concept mapping. These included 37 in the brainstorming, 29 in the sorting, 28 in the rating and 24 in the interpretation phase. Participant demographics are represented in Figures 1 through 3 below. More than half of the participants were teachers (n = 21), with the remaining identifying themselves as school-level administrators (n = 5) or board personnel (n = 11). Although eight boards were eligible to participate, in the end individuals from six of the twelve project boards participated in the concept mapping project. Individuals from four of the six boards agreed to take part in the interpretation session. Self-identified levels of involvement in DIPLS were relatively high, with 76% (28/37) participants reporting a significant or substantial level. However, their length of experience did not necessarily correspond with their level of involvement: 38% (19/37) had only participated in DIPLS for one year or less; and 62% for two.

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6 For a detailed discussion of the statistical logic and steps behind each of these procedures, refer to Kane and Trochim (2006).
Figure 1 Participants’ primary role

- Teacher: 56.76%
- School-level Administrator: 29.73%
- Board Personnel: 13.51%

Figure 2 Participants’ years of experience with DIPLS

- 1 year or less: 20%
- 2 years: 25%
- 3 years: 15%
- 4 years or more: 20%
1.2.2 Concept map and results of analysis of sorting data

The final set of 60 statements appears in Appendix E. These statements were then sorted by 29 participants, rated by 28, and analyzed by the Concept Mapping software. A concept map was generated and then discussed in two interpretation sessions with 24 administrators and educators from four different boards participating. We shared a draft concept map with the participants. Through discussion that took place during the interpretation session, participants decided that the statements in one cluster were better aligned with other existing clusters. Therefore the items were realigned with other clusters by the participants, resulting in a final map with seven clusters.

This map appears in Figure 4. Essentially, the map is a visual representation of “clusters” of statements, (shown by number from 1-60), that were most commonly grouped together. Small, tightly held clusters (e.g., Clusters 2 and 6) represent statements that were more frequently sorted together, but not often with others. Larger clusters (e.g., 3 and 6) depict statements that were found to be sorted together, but not as frequently as the smaller ones. During the interpretation sessions, the two groups discussed each cluster, provided a label, and made decisions to move a few statements to new groups. For example, while Clusters 2 and 6 were very small, (with only three and two statements respectively), the groups believed that these themes were important to capture and continue to explore throughout the remaining phases of the DIPLS evaluation. It is also important to note that while the clusters capture the outcomes of DIPLS observed by participants, cluster 2 (Concerns regarding DIPLS) is focused rather on the unintended consequences potentially arising from the implementation or process of DIPLS.

Also note that Clusters 1 and 3 are overlapping. This was a result of several decisions made during interpretation, which demonstrate that these two clusters are conceptually fairly similar (Using assessment to facilitate student learning; and Engaging students through personalized learning opportunities); and that participants sorted many of these statements together. As seen in Figure 4, similar clusters are closer to one another: clusters 1 and 3 are about student engagement, whereas clusters 4, 6 and 7 relate to teachers’ professional practice.
1.2.3 Results of analysis of rating data

The results of the participants' ratings are summarized in Table 1 and Figure 5. Table 1 provides a summary of the average ratings by cluster for teachers, administrators and for the overall sample. Most outcome statements were rated as being impacted by DIPLS “moderately” or “very much” (3 or 4 out of 5).

As evidenced by the average ratings in Table 1, overall, the administrators believed that DIPLS contributed slightly less to the outcomes than teachers. One distinction was the Cluster 5: Instructional leadership, which the administrators rated slightly more highly (but still only as “somewhat/moderately”) as an effect of DIPLS.

### Table 1 Average ratings by cluster

<table>
<thead>
<tr>
<th>Cluster Name</th>
<th>Average Rating by Teachers N=17</th>
<th>Admin + Board Level Personnel N=11</th>
<th>Overall N=28</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Using assessment to facilitate student learning</td>
<td>4.11</td>
<td>3.53</td>
<td>3.88</td>
</tr>
<tr>
<td>2. Concerns regarding DIPLS</td>
<td>2.47</td>
<td>2.00</td>
<td>2.29</td>
</tr>
<tr>
<td>3. Engaging students through personalized learning opportunities</td>
<td>3.88</td>
<td>3.72</td>
<td>3.82</td>
</tr>
<tr>
<td>4. Supporting teachers through professional learning opportunities</td>
<td>3.85</td>
<td>3.84</td>
<td>3.85</td>
</tr>
<tr>
<td>5. Instructional leadership</td>
<td>3.18</td>
<td>3.32</td>
<td>3.23</td>
</tr>
<tr>
<td>6. Engaging teachers in enhancing classroom practice</td>
<td>3.88</td>
<td>3.52</td>
<td>3.74</td>
</tr>
<tr>
<td>7. Professional growth through reflective practice</td>
<td>3.97</td>
<td>3.81</td>
<td>3.91</td>
</tr>
<tr>
<td>Average rating</td>
<td>3.62</td>
<td>3.39</td>
<td>3.53</td>
</tr>
</tbody>
</table>

The data that are presented in Table 1 are also displayed visually in Figure 4. Figure 5 provides a “pattern map” display that illustrates the differences between two groups – teachers and administrators – in terms of their average ratings for the seven clusters. Each of the seven clusters is listed in order from those most highly rated to those ranked the lowest. As can be seen on the figure, the ratings have a maximum high value of 4.11 and a low value of 2.00.

A line represents each cluster. For example, the title of the cluster Professional growth through reflective practice is written in green, and the green line in the figure depicts this cluster. The left-hand side of the figure presents the teacher rating and the right-hand side, the admin/board personnel rating for each cluster. Should there be a difference in the rating of the two groups, the slope of the line running between the two groups will clearly be steeper.

The results show a high degree of correlation between the two groups ($r= .92$) and relatively little difference in terms of the ranking and rating of statements.
Figure 4 DIPLS Concept Map

1. Using Assessment to facilitate student learning
2. Concerns regarding DIPLS
3. Engaging students through personalized learning opportunities
4. Supporting teachers through professional learning opportunities
5. Instructional leadership
6. Engaging teachers in enhancing classroom practice
7. Professional growth through reflective practice
1.3 Discussion

The overall goals of the concept mapping activity were to explore the impact of DIPLS on teaching, learning and managing from the perspective of DI-knowledgeable facilitators, administrators, and educators from project boards across the province. The individuals served as key informants and provided valuable information regarding the outcomes that are being observed by those engaged in DIPLS and DI rather than simply those that are theorized within the DIPLS logic model. Although generated by a small, engaged group of participants \((n = 37)\) whose views cannot be generalized to a broader sample of educators and administrators in both project and non-project boards in Ontario, current findings are important in terms of informing the overall DIPLS evaluation as they identify outcomes actually observed by staff involved in the DIPLS.

The seven clusters generated by the participants that comprise the concept map reflect many of the outcomes outlined in the DIPLS logic model. For example, meeting students’ learning needs and improving outcomes for students in terms of achievement are listed as long-term outcomes. Approaches and strategies that improve student outcomes, including assessment FOR and AS learning, providing students with choices in terms of content as well as product, giving students responsibility in their own learning, focusing on student strength and providing flexible groupings were listed by participants. These are all examples of differentiated instruction and assessment. Some also felt that by better engaging students through these approaches, behavioural difficulties in the classroom would be reduced, thus also improving teaching and learning opportunities. As can be seen in the cluster ratings (Table 1) Clusters 1 and 3, which speak specifically to improving student learning, are rated highly by educators and administrators although more strongly by the former group. Clearly, the participants in the concept mapping
activity feel that the DIPLS is having a strong, positive impact on student learning through the implementation of DI strategies and approaches.

The other major area where participants noted a strong, positive impact of DIPLS was related to the professional growth of educators, including their participation in professional learning opportunities and also enhanced classroom practice. In fact, Cluster 7: *Professional growth through reflective practice* was the cluster most highly rated by participants overall in terms of being impacted by DIPLS. Clusters 4 and 6, which also capture elements of professional learning, were rated highly as well. Participants spoke of the opportunities for reflection afforded them through the professional learning cycles (PLCs) as well as the chance to develop new teaching strategies and to incorporate them into their practice. Participants also highlighted the benefits of being able to collaborate with their colleagues across disciplines and grades, to share successful practices and co-plan. With respect to the goals of the DIPLS, which include increased awareness, knowledge and implementation of DI as well as collaborative professional learning opportunities including PLCs, the present findings confirms the attainment of these for a select group of educators and administrators.

The remaining two clusters, *Concerns regarding DIPLS* and *Instructional leadership*, reflect the contribution of a small number of statements by a few participants. The first highlights potential negative, unintended outcomes of the DIPLS including the creation of unnecessary activities and DI-specific terminology and the possible misuse or overuse of DI strategies in instances where deep understanding of underlying principles has not taken place. This cluster was rated the lowest by participants and as mentioned previously, is somewhat of an anomaly as it focuses on concerns regarding the implementation or process of DIPLS, rather than its outcomes. Finally, the fifth cluster, *Instructional leadership* remained in the concept map despite the few participants who contributed to its creation because of decisions made during the interpretation session. It was the consensus of the participants that this was an important cluster with respect to DIPLS and that it captured the experiences of school administrators. As far fewer school administrators (n = 5) participated in the brainstorming phase compared to teachers (n = 21) or school board personnel (n = 11), it is possible that their experiences with DIPLS were underrepresented on the map. Given this observation in addition to the arguments made during the interpretation session by both teachers, school board personnel and school administrators, the cluster was retained on the map. According to participants, DIPLS affected *Instructional Leadership* by assisting administrators in developing capacity in their schools with respect to DI knowledge and understanding. This cluster received the second lowest rating by participants, which again may reflect the perspective of teachers rather than administrators regarding this cluster.

Overall, the concept mapping activity provided valuable insight regarding the perceived impact of DIPLS on student learning, professional growth of educators and instructional leadership. Participants rated *Professional growth through reflective practice* and *Using assessment to facilitate student learning* as those outcome clusters most influenced by DIPLS and *Instructional leadership* and *Concerns regarding DIPLS* as those least influenced. Many of these outcomes mirrored those listed in the DIPLS logic model. The concept map also reflects concerns raised by a few participants regarding the real necessity of DIPLS and DI as well as the potential misuse of DI strategies. All of the findings arising from the concept mapping activity were integrated into the subsequent phases of the DIPLS evaluation, including the provincial DI survey.
2.0 Strand II: Provincial Differentiated Instruction Survey

2.1 Survey Development

The purpose of the survey was to assess the perceptions of educators, administrators, and board personnel regarding the process of the DIPLS, the outcomes of the DIPLS, and their efficacy related to DI. The survey provides broad evidence of outcomes related to teacher awareness and implementation of DI, teacher self-efficacy as well as the perceptions of participants regarding student engagement and achievement.

In early June a review of pertinent academic literature was completed to provide contextual information and a more complete understanding of how surveys have been used to evaluate professional learning programs such as the DIPLS. We used Guskey’s (2000) framework for evaluating professional development outcomes as a conceptual guide.

To provide an initial framework for the survey a chart was created aligning key variables with other important inputs (see Appendix F). These included:

- The project evaluation questions;
- The five outcome levels of professional development evaluation outlined by Guskey (2000) –(i) participants’ reactions, (ii) participants’ learning, (iii) organizational support & change, (iv) participants’ use of new knowledge and skills, and (v) student learning outcomes;
- Key variables identified by the evaluation team;
- Past DI in Action Survey (Ontario Ministry of Education) items;
- The perceived impacts of DI from the of the concept mapping study;
- Teacher efficacy measures; and
- Outcome variables from DI logic model.

Using the key variables and the DI in Action survey items as a starting point, a list of proposed questions and potential responses was formed. These were initially revised based on the key role of the participant. As the survey was to be completed by teachers, administrators and board personnel, it was important that: (a) questions completed by these participants were relevant for their role and expertise, and (b) that there was consistency in key variables across what was basically three surveys to allow for comparisons by participant role.

There were several rounds of review and revisions with a subgroup of the evaluation team; the goal at this point was to make sure the survey contained a sufficient range of items to provide answers to the evaluation questions and that the variables of interest could be captured in ways that were both valid and reliable and that would lend themselves to later analysis.

Once completed, the entire evaluation team reviewed the survey; again questions were reviewed for clarity. Concern was expressed over the length of the survey and repetitiveness of some questions. For example, participants were asked how often they had participated in each of the DI professional learning opportunities and then they were asked to rate the effectiveness of each opportunity. By consolidating these and similar questions the overall length of the survey was reduced and it was considered more ‘user-friendly’.

Following this stage, one member of the evaluation team met with the Ministry DI team in Toronto to further review the survey. It was a very productive meeting resulting in a number of changes to both the structure and phrasing of questions. At this point different “paths” through the survey were confirmed for teachers, administrators and board personnel. Questions and responses were revised to suit the specific aspects of each role. Other questions that allowed
Evaluation of the DIPLS

participants to skip forward in the survey were also created. For example, participants who answered that they did not participate in DI professional learning opportunities would skip over the question asking them to identify the frequency of participation and to evaluate the types of professional learning opportunities. The intent of these revisions was to avoid wasted time and frustration on the part of participants and thereby increase participation in and completion of the survey. Revisions based on input from the evaluation team as well as the Ministry DI team continued throughout August.

In September, the survey was reviewed by the DI/Literacy/Numeracy Advisory Panel in a videoconference. Feedback was provided from several of the panel members, which resulted in further improvements, clarification, and validation of the survey items. Some Federation representatives also expressed concerns about items related to: (a) teacher efficacy and (b) teacher perceptions of collegial support and encouragement. The evaluation team saw these variables in the context of the evaluation of DIPLS as essential and provided subsequent justification and assurances about handling of the data. In the end, Federation representatives remained loathe to have “members evaluate their own performance or that of their peers” and the items were removed. As a result, the utility of the survey in its final form is limited and ultimate findings will be considered and interpreted within these limitations.

2.2 Field Testing

Once all revisions were completed, the survey was released for field testing. Approximately 7 teachers, 4 board personnel and 4 school administrators completed the survey and provided minor feedback, largely related to technical aspects of the survey software. The final survey instrument appears in Appendix G.

2.3 Procedures

An e-mail containing a live link to the survey was sent by the Ministry to Student Success Leaders (SSLs) in all English school boards in late September, 2011. The role of the SSLs was to further distribute the survey link to teachers, school administrators and board personnel. Boards with representative participation were promised brief reports summarizing findings specific to their staff.

The survey was originally slated to close in early November. However, some boards indicated that they would like their staff to complete the survey during a professional learning session and requested that the close date be extended. In order to allow participation by as many participants as possible, the survey was ultimately left open until mid-December.

According to feedback received from two boards, some participants experienced technical issues related to completion of the survey. These were experienced primarily during group sessions where multiple participants were completing the survey simultaneously. As there is no limit to the capacity of the software, and these difficulties were not experienced by other boards in similar settings, it was hypothesized that these were related to technical requirements of the boards in question. Many participants from the two boards did complete survey; however it is not known if or how the technical issues limited the potential response.

2.4 Sample and Participants

2.4.1 Individual Participant Participation

In total, 7469 participants began the DI survey. Of these, 6121 were teachers, 960 were school administrators and 388 were board personnel (see Figure 6). Approximately 20% of teachers
failed to complete the survey; 11% quit the survey by the end of the demographics portion and another 5% after a particularly lengthy series of ratings of DIPLS Activities. Approximately 15% of school administrators and 19% of board personnel failed to complete the survey. As there was no possibility of saving work and returning to the survey, a number of the participants who quit very early on (e.g. for teachers, 6% quit after the first question) may in fact have returned to complete the survey when they had more time. The responses of those who did not complete at least the majority of the survey and the key variables are not included in the analyses. The final number of teachers, administrators and board personnel who completed the survey is presented in Figure 6.

Because our survey targeted teachers in grades 7-12, which span elementary and secondary panels, it is difficult to estimate the potential pool of participants to determine the response rate we received. However, given the approximately 44,000 secondary and 70,500 elementary teachers\(^7\), the present sample of 5997 likely represents approximately 10% of the total teacher population. Again, these response rates should be considered when interpreting the findings from the survey. The views and experiences expressed by 7-12 teachers, school administrators and board personnel may not be representative of these groups as a whole.

**Figure 6 Approximate number of participants who completed the survey by primary role**

![Bar chart showing the number of completed surveys for teachers, school administrators, and board personnel.](image)

### 2.4.2 Board Participation

In total, responses were received from 62 of the 71 English-language boards/authorities across Ontario. Numbers of participants within these ranged from 1 – 726 (see Figure 7). Of the boards who participated, 30 were public and 29 were Catholic. It should be noted that the contexts experienced by the participants from these boards do not necessarily mirror those of teachers, administrators and board personnel from those boards not represented in the sample. Clearly some of the boards, including those who did not participate, are atypical in that they consist of one school, usually a treatment centre of some kind. In fact 5 of the 8 boards that did

\(^7\) For 2009-2010 (http://www.edu.gov.on.ca/eng/educationFacts.html)
not take part fit this description. Of those who took part, the average number of participants was 119 although the standard deviation was 132 indicating significant variation across boards.

**Figure 7 Participation rates across school boards**

While many factors likely explain the variation in participation across boards, the evaluation team was somewhat removed from the recruitment process and is not able to identify these with confidence. Through informal conversations with educators and administrators in various boards, it was clear that the approaches taken by key board personnel to raise the level of awareness among educators and administrators regarding the survey (e.g. word of mouth, e-mail forward, time given during professional development day) influenced the number of participants who knew of and completed the survey. There are, of course, also differences in the potential pool of participants within each board.

### 2.5 Data Analysis

Standard descriptive statistics were calculated for teacher, administrator and board personnel surveys sets and are shown below. More detailed analyses were performed to address the evaluation questions motivating this evaluation and are described in the “Findings” section of this report.

In order to more thoroughly describe the sample, a number of demographic questions were asked of participants. Specifically, teachers indicated: (a) The grades they had mostly taught since 2007 (Figure 8), (b) the number of years of classroom teaching experience they had (Table 2), and (c) the number of schools they taught at since 2007 (Table 3). Administrators and Board Personnel similarly indicated: (a) the number of years of administrative/board experience they had (Table 2), and (b) the number of schools (administrators) or boards (board personnel) they worked at since 2007 (Table 3).
Figure 8 Grades mostly taught by teachers since 2007

Table 2 Years of experience in their current role

<table>
<thead>
<tr>
<th>Participant Group</th>
<th>Mean (SD)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>14.62 (8.07)</td>
<td>&lt; 1</td>
<td>41</td>
</tr>
<tr>
<td>Administrators</td>
<td>8.90 (4.97)</td>
<td>&lt; 1</td>
<td>35</td>
</tr>
<tr>
<td>Board Personnel</td>
<td>6.48 (5.08)</td>
<td>&lt; 1</td>
<td>33</td>
</tr>
</tbody>
</table>

Table 3 Percentage of participants reporting levels of school/board mobility since 2007

<table>
<thead>
<tr>
<th>Number of Schools</th>
<th>Teachers</th>
<th>Administrators</th>
<th>Board Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only in my current school/boards</td>
<td>58.40</td>
<td>16.30</td>
<td>96.50</td>
</tr>
<tr>
<td>In 2 different schools/boards</td>
<td>23.70</td>
<td>52.90</td>
<td>3.50</td>
</tr>
<tr>
<td>In 3 different schools/boards</td>
<td>8.90</td>
<td>22.60</td>
<td>--</td>
</tr>
<tr>
<td>In 4 different schools/boards or more</td>
<td>9.00</td>
<td>8.20</td>
<td>--</td>
</tr>
</tbody>
</table>

2.6 DIPLS Participation

The following table (Table 4) indicates the number and percentage of the total sample of teachers, administrators and board personnel who reported taking part in differentiated instruction professional learning activities.
Evaluation of the DIPLS

<table>
<thead>
<tr>
<th>Participant Group</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>4127</td>
<td>85</td>
</tr>
<tr>
<td>Administrators</td>
<td>723</td>
<td>88</td>
</tr>
<tr>
<td>Board Personnel</td>
<td>259</td>
<td>83</td>
</tr>
</tbody>
</table>

Participants who had taken part in DIPLS activities also indicated the number of years they had taken part; these results are listed below (Table 5). As is evidenced, most participants were involved in DIPLS for 3 years or more.

<table>
<thead>
<tr>
<th>Number of years</th>
<th>Teachers</th>
<th>Administrators</th>
<th>Board Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>13%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>1 year</td>
<td>14%</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>2 years</td>
<td>24%</td>
<td>16%</td>
<td>18%</td>
</tr>
<tr>
<td>3 years</td>
<td>19%</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>4 or more years</td>
<td>30%</td>
<td>52%</td>
<td>51%</td>
</tr>
</tbody>
</table>

When DIPLS began in 2007, it originally focused on grade 7 and 8 teachers as part of a multi-year plan. As a result, grade 7 and 8 teachers will theoretically have had the most experience with DIPLS. The following figure (Figure 9) summarizes the years of DI experience reported by teachers within each grade level grouping. Significant differences exist overall and specifically such that grade 7 and 8 teachers reported more years of DI experience as compared to grade 9 and 10 teachers and grade 11 and 12 teachers. There was no significant difference between the two largest groups; those teaching grades 7 and 8 and those teaching grades 9 through 12.

It is important to note that given the large sample size, even very small differences in means may result in statistical significance. It is important to also examine the effect size, which in this case was very small.

\[ F(3, 4126) = 15.32, \ p = .00; \ 7 & 8 \ vs \ 9 & 10, \ p = .00; \ vs \ 9-12, \ p = .22, \ vs. \ 11 & 12, \ p = .00. \]

\[ \eta^2 = .01 \]

\[ \eta^2 = .01 \]

---

\[ \eta^2 = .01 \]

Effect size is a measure of strength of relationship between two variables. Generally when using \( \eta^2 \), .01 constitutes a small effect, .06 a medium effect and .14 or above a large effect.
3.0 Strand III: Multiple Case Study

3.1 Sample and Participants

The critical first step of Strand III was the selection of the six case study sites; each from one of the six regions of Ontario (Thunder Bay, North Bay/Sudbury, Toronto, Barrie, Ottawa, London). Efforts were made to ensure that these schools represented a range of experience and expertise with DIPLS as well as variation with respect to geographic location, school type (7-8, 9-12, 7-12; public/Catholic), student performance and achievement outcomes (e.g. EQAO levels). Other sources of sampling data that were used were: the Teacher Questionnaire Survey, DI Plans (RAFTs), Collaborative Inquiry Reports, DI in Action Surveys (board-level results), and Summer Program Surveys (board-level results).

The application of selection criteria resulted in a shortlist of 9 potential school boards. The next step was to review the procedures for research ethics approval in each of the potential boards to:

- establish ethics process and timeline
- determine which Boards might allow participation for the proposed case study time frame (Oct./Nov. 2011)
- determine which Boards would be in a position to grant approval with ample time for recruitment

Three boards were then removed from the list, as their research ethics deadlines had either passed or applications were not likely to be processed in time. This brought the total to six potential boards.

Ethics applications were submitted to the six boards between July and September. By mid-September, ethics approval had been received from five school boards. Although we were given every indication that approval by the sixth board (London region) was imminent, we did not receive approval in time to complete the case study.

Figure 9 DI Experience by grades mostly taught by teachers since 2007

- Grade 11 & 12
- Grade 9 - 12
- Grade 9 & 10
- Grade 7 & 8

Years of DIPLS Experience
Following ethical research approval in the five boards the Student Success Leaders (SSLs) were contacted by the DIPLS evaluation team, to inform them of the case studies and ask them for their advice and assistance in identifying DI-knowledgeable personnel for key informant interviews and to recommend possible case study sites within their respective boards. These individuals are typically employed at the school board level although in smaller boards, they may be school-level administrators. Among many other roles and responsibilities, the SSLs provide support for DIPLS project sites. As such, they are very knowledgeable about DIPLS activities ongoing at schools within the board, as well as educators and administrators who are involved in these activities. Refer to Appendix H for a copy of a sample information letter that was distributed to SSLs.

There was some variation across the five boards in terms of the responses from the SSLs. Some preferred to speak directly to their DI-knowledgeable “team”, (consultants, administrators, educators), about the project and to facilitate ongoing communication. Others requested that the DIPLS evaluation team speak directly to the school principal/vice principal, or DI Resource Teacher. Both approaches were successful in garnering interest and support in the project.

Once the project received approval from the boards’ research ethics committees, the DIPLS team liaised with board contacts to establish a timeline for the case studies. Once the interview and focus group dates were set, an invitation for the teacher focus groups was distributed to the SSLs to forward to their contacts in identified schools. In addition, student recruitment packages were mailed out. To help promote involvement for potential focus group participants, draw prizes and light refreshments were offered. Refer to Appendix I and Appendix J for copies of the focus group invitations.

Five case studies were completed, including one board each from five of the six regions in the province. Table 6 provides overall enrolment numbers for the boards included as well as demographic information about the participating schools. This information is intended to show the variation of the case study sample. Variation in the sample provides a range of experiences and understandings however, the schools involved may or may not be representative of the entire board to which they belong.

The boards ranged in size both geographically and in terms of enrolment. The school boards in the Sudbury and Thunder Bay regions cover large geographic areas but have relatively lower student populations when compared to boards in Southern Ontario. All schools are situated in urban settings although the size of the cities involved varied a great deal. A variety of school types were represented including: JK-8, 5-8, 7-8, 7-12, 9-12. The enrolment of the schools also ranged although four of the five secondary schools had between 1,000 and 1,200 students.

While there was variation between the schools, all of the schools had lower than average percentages of students living in lower-income households and percentages of students whose first language is not English when compared to provincial average. In conversation with boards considering participation in the study, the opinion was expressed that those schools already involved in multiple Ministry initiatives focused on improving outcomes for high-needs students did not feel that they could take part because they were too busy and /or overwhelmed. The percentages of students who receive special education services were higher than the provincial average in elementary schools from the Barrie and Thunder Bay regions and secondary schools from the Sudbury and Barrie regions. Results on provincial assessments also varied. The percentage of students achieving the provincial standard in academic math was higher than the provincial average in the schools from the Ottawa and Toronto regions and lower than average in the Sudbury and Thunder Bay regions. In terms of applied math, percentage of students achieving the provincial standard was higher than the provincial average in the schools from the Barrie, Ottawa and Toronto regions and lower than average in the Sudbury regions. The
percentage of students who passed the Grade 10 literacy test on their first attempt was higher than the provincial average in the schools from the Ottawa and Toronto regions and lower than average in the Thunder Bay region.

### Table 6 Case study demographics by region

<table>
<thead>
<tr>
<th></th>
<th>North Bay/Sudbury</th>
<th>Barrie</th>
<th>Ottawa</th>
<th>Toronto</th>
<th>Thunder Bay</th>
<th>Provincial %</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>Public</td>
<td>Public</td>
<td>Catholic</td>
<td>Public</td>
<td>Catholic</td>
<td></td>
</tr>
<tr>
<td>Board enrolment (in thousands)</td>
<td>10 – 15</td>
<td>30-35</td>
<td>35 - 40</td>
<td>55 - 60</td>
<td>5 - 10</td>
<td></td>
</tr>
</tbody>
</table>

#### Elementary School case study site

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
<th>Yes</th>
<th>No</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPLS project site?</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>School enrolment</td>
<td>450</td>
<td>700</td>
<td>n/a</td>
<td>250</td>
<td>650</td>
</tr>
<tr>
<td>% students in low-income households</td>
<td>10</td>
<td>10</td>
<td>n/a</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>% students who receive special education services</td>
<td>15</td>
<td>20</td>
<td>n/a</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>% students whose first language is not English</td>
<td>&lt;1.0</td>
<td>5</td>
<td>n/a</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

#### Secondary School case study site

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
<th>Yes</th>
<th>No</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPLS project site?</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>School enrolment</td>
<td>1 100</td>
<td>1 000</td>
<td>1 100</td>
<td>500</td>
<td>1 200</td>
</tr>
<tr>
<td>% students in low-income households</td>
<td>10</td>
<td>5</td>
<td>15</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>% students who receive special education services</td>
<td>20</td>
<td>25</td>
<td>15</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>% students whose first language is not English</td>
<td>&lt;1.0</td>
<td>1</td>
<td>10</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>% students achieving the provincial standard in academic math</td>
<td>70</td>
<td>85</td>
<td>90</td>
<td>90</td>
<td>75</td>
</tr>
<tr>
<td>% students achieving the provincial standard in applied math</td>
<td>35</td>
<td>55</td>
<td>65</td>
<td>65</td>
<td>40</td>
</tr>
<tr>
<td>% students who passed literacy test on their first attempt</td>
<td>85</td>
<td>85</td>
<td>90</td>
<td>90</td>
<td>75</td>
</tr>
</tbody>
</table>

**Note:** To protect the anonymity of the boards and schools, the board populations have been represented as a range; the school populations have been rounded to the nearest 50 and the percentages have been rounded to the nearest 5.

The five case studies were completed over a twelve-week period (November 7, 2011 – January 30, 2012). DIPLS evaluation team members conducted focus groups and key informant interviews on site in five regions across the province.

As shown in Table 7 overall, 46 teachers and 56 students participated in focus groups. A total of 20 key informant 20 interviews were completed. However, one key informant in the Thunder Bay region did not participate.
Bay region asked to have their data removed from the study after being sent their transcript to review. No explanation for this was given. As a result, only one key informant interview from the Thunder Bay region was retained for analysis.

### Table 7 Case study participants by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Teacher Focus Groups</th>
<th>Student Focus Groups</th>
<th>Key Informant Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bay/Sudbury</td>
<td>10</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Barrie</td>
<td>8</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Ottawa</td>
<td>7</td>
<td>6 + 11</td>
<td>4</td>
</tr>
<tr>
<td>Toronto</td>
<td>12</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Thunder Bay</td>
<td>4 + 5</td>
<td>5 + 6</td>
<td>2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>46</strong></td>
<td><strong>56</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

### 3.2 Procedures

#### 3.2.1 Interviews with key informants

Given the evaluation questions provided by the Ministry, interviews focused on: a) factors that enabled or impeded the implementation of DIPLS, b) activities and resources within the DIPLS that were perceived as effective, and c) the perceived impact of DIPLS on teaching and learning. The interview schedule was confirmed by the Ministry Advisory Group and pilot tested to ensure reliability. The key informant guide is appended (Appendix K).

Key informants included district and school personnel responsible for managing activities related to DI and DIPLS (i.e., school board curriculum consultants, school superintendents, school administration, learning support teachers, school success leaders, DI – knowledgeable facilitators).

Interviews were conducted in private and audio-recorded. Most interviews lasted between 20 and 40 minutes.

#### 3.2.2 Focus groups with teachers and students

The guiding questions of the focus groups were similar to those described for the key informant interviews, but were designed to draw a greater breadth and variety of responses as the groups were likely to include individuals who may not be as deeply knowledgeable about the DIPLS. The purpose of the questions was to provide a front-line perspective through descriptions and discussion of DIPLS and DI and their effectiveness at a classroom level.

Guides were confirmed for use following meetings with the Ministry Advisory Group, and were pilot tested to ensure reliability. The focus group guides for teachers (Appendix L) and students (Appendix M) are appended.

In most cases, a single teacher focus group was held in each school. Teacher participants were sampled across grade and subject within each group, ranging in size from 7 to 12 participants.
In three of the five case studies one student focus group was conducted, and in two instances two focus groups were held (one for elementary, one for high school students). The size of the student focus groups ranged from 5 to 12 participants. Focus groups were conducted in private and were audio-recorded. On average, focus groups were 60 minutes in length.

Following the case studies, the main contacts were asked to distribute the draw prizes (gift cards) to selected focus group participants where appropriate. All contacts were thanked for their valuable assistance in coordinating the interviews and focus groups.

### 3.3 Data Analysis

Prior to data analysis, profiles of the participating boards were generated to provide context for the findings.

Focus group discussions were transcribed in summary format to allow for more expedient analysis and the interviewer transcribed key informant interviews verbatim. As was mentioned, one key informant in Thunder Bay chose to have their data removed from the study and as such, this transcript was not retained for data analysis.

Transcriptions and summary notes were then coded, using a protocol developed to reflect the Ministry evaluation questions and emergent findings of interest. The coding protocol was developed and modified over a two week period by three members of DIPLS team (see Appendix N). Interviewers initially coded their own transcriptions, however random audits were performed to ensure integrity of the coding process.

Initial coding focused on identifying/retaining statements that were perceived to provide evidence of:

- Teachers’ awareness of DI
- Teachers’ understanding of DI
- Teachers’ practice of DI
- Enhancements to implementation
- Impediments to implementation
- Impact of DI/DIPLS on instructional practice
- Impact of DI/DIPLS on student outcomes
- Impact of DI/DIPLS on culture
- Approaches/strategies for implementation
- Useful resources

Statements pertaining to the above categories were entered into spreadsheets, organized by case study and participant grouping (key informant/teacher focus group/student focus group).

Next, the coded statements were compared and contrasted both within and across the five case studies. Data were then explored in relation to the evaluation questions and relevant quantitative survey data from Strand II. The case study data are presented in terms of overall findings drawn from focus groups and key informant interviews. Terms such as ‘some’ and ‘many’ are used as a general guide to indicate the frequency of a particular perspective or expressed opinion with the former indicating a common minority view and the latter representing a majority view.
3.4 Limitations of the Evaluation

A number of limitations should be considered in interpreting the evaluation findings. These relate to the overall design as well as the recruitment and data collection approaches and types of data employed.

**Evaluation Design**

The external evaluation has been undertaken 4 years after the gradual implementation of the DIPLS. As such, no baseline or pre-intervention data are available thus limiting the causal inferences that can be made. Also, the Ministry has student achievement as the long-term outcomes in their logic model; however it is not possible to link estimates of achievement (e.g. EQAO, student grades) or engagement to the elements of the strategy. We have relied instead on teacher perception of the impact of DIPLS on their students over the past 5 years.

The nature of the DIPLS itself also provides limitations with respect to the design. The strategy consists of multiple activities and resources that teachers, schools and boards engaged with and took part in to varying degrees over 4 years. It is not possible to accurately estimate the exposure of educators to the intervention. We have again relied entirely on participant reports of participation in the initiative; however, through our discussions with educators it became clear that many struggled to distinguish between DI-focused professional learning and those workshops and PD days focused on initiatives such as Growing Success, or various literacy, math, or student success programs.

Accordingly, while the evaluation questions are focused on the “impact” of DIPLS on teacher practice and student outcomes, we are unable to in fact assess the attribution of outcomes to the DIPLS; rather we have focused on the contribution of the DIPLS to both intended outcomes (Mayne, 2001) while remaining wary of possible unintended outcomes, whether positive or negative. The design of the DIPLS as well as the complex systems within which the DIPLS was implemented do not allow us to determine conclusively if the outcomes under study can be attributed to the strategy. However, a contribution analysis allows us to bring together “evidence and argumentation from which it is reasonable to conclude the program has made an important contribution and why, within some level of confidence” (Mayne, 2008, p. 8).

**Survey**

One of the main limitations of the survey is the recruitment of participants. As was mentioned previously, the Ministry sent the electronic link to the survey to Student Success Leaders (SSLs) in all English school boards. It was the role of the SSLs to further distribute the survey link to teachers, school administrators and board personnel. We have no way of confirming that the SSLs did in fact distribute this, although given that the majority of boards in the province did take part, we assume that this did take place. We also have no information as to how widely the SSLs distributed the survey. Given our discussions with educators, we believe that in some boards, this link may have only be sent to those considered to be particularly knowledgeable regarding DI and in other boards, it was sent to all eligible teachers, administrators and board personnel. Furthermore, some boards decided to encourage participation among their staff by providing time during a meeting or PD day for them to complete the survey; clearly this approach likely resulted in higher rates of participation for those boards.

**Case Studies**

The value of the case studies was largely to add depth and context to the survey data. It allowed us to explore the ‘hows’ and ‘whys’ through focus groups and interviews with students, teachers, administrators, and board personnel. However, the interpretation of findings emerging from the case studies should be considered in light of several limitations. First, the selection of
the schools and boards representing each region was restricted in several ways. Our original goal was to select a range of boards based on a range of experience and expertise with DIPLS as well as variation with respect to geographic location, school type (7-8, 9-12, 7-12), public/Catholic, and student performance and achievement outcomes (e.g. average grades, EQAO levels, Student Success indicators). While we do believe that this was accomplished to some respect, our sample was also much more of one of convenience than was originally anticipated. This was due to the ethical approval process of the school boards as well as the key role of the SSL. The timelines for the project were quite short and we were past the deadline for the ethical approval process for a number of boards by the time the project began, resulting in them being removed from the potential pool.

Our application with a school board in the London region was received prior to their deadlines. Although we were given assurance repeatedly that the approval was imminent in the fall of 2011, the board research team did not complete the approval by the time the study was completed. This left us without the possibility of applying for approval with another board within the timelines required in the region, further limiting the findings of the case studies.

The role of the SSL was also key in the case study recruitment phase as they were our contact people and those responsible for providing us with information about potential key informants with the boards. The SSLs in some boards were extremely helpful and were largely responsible for the success of the case study in terms of recruiting schools, administrators, teachers and students. Other SSLs did not respond to our request or indicated that they could not be of assistance, which again prohibited us from being able to secure participation from their board. As a result, the pool was narrowed further. The findings that emerge from the case studies may not represent the views, experiences and opinions of those from other schools within the boards, other boards within the region, and other regions within the province and should be interpreted with this in mind. We now turn to a presentation of the findings of the survey and case study strands.

**Findings**

**4.0 Introduction**

This section of the report contains the main findings that emerged from the analyses of the provincial survey and case studies. In what follows, the findings are used to address the specific evaluation questions posed by the Ministry integrated across data methods. We begin with a focus on DI implementation issues, and then examine the impact of DIPLS, followed by our analysis of the effectiveness of Ministry implementation strategies. For each of the questions associated with these categories of issues we consider relevant findings from questionnaire survey and multiple case study strands and comment on the extent to which findings across strands are corroborated.

In working with the quantitative data from the questionnaire survey, we were most often able to rely on simple descriptive item-level statistics from the questionnaire. However, in many cases evaluation questions called for ‘relational analyses,’ involving two or more variables (e.g., “What impact has the DIPLS had on instructional practice?”). To answer such questions we used a form of path analysis on our teacher sample as our main approach to analyzing relationships among variables of interest. In order to accomplish this we created a set of variables to represent the various constructs of interest, as suggested by the evaluation questions. In the next subsection we describe these variables and then present and explain the statistical path model that we will use to help us understand the effects of certain variables on others. Where
relevant we will then draw from this path model to help inform our answers to respective evaluation questions in the ensuing sections.

4.1 Variable Descriptions

The full list of variables that we used in the path analyses appear in Table 8. Some of these variables correspond directly to specific questionnaire items whereas others were constructed by integrating several item-level variables into a ‘composite’ or ‘scale’ variable. Included in Table 8 are descriptive statistics, and where composite variables are concerned, a measure of the internal consistency of the variable. All composite variables were found to be highly reliable for the teacher sample.

Table 8 shows four predictor or ‘exogenous’ variables. Exogenous variables are variables in the path model that are not affected by any other variables; in a sense they may be considered to be antecedent or background variables. Included are a measure of DI Intensity (the degree to which teachers participated in DI professional learning activities), and DI Valuing (the extent to which teachers found these activities to help them implement DI). We also looked at Grade Level (intermediate vs. intermediate/senior) and DI Experience (length of time teachers have been involved with DI professional learning activities).

Next we have a set of ‘endogenous’ variables, which are variables that are affected by at least one other variable in the path model. In contrast to the ‘exogenous’ background variables, these are the outcome variables in the model. As we will see, sometimes endogenous variables can, in turn, affect other endogenous variable(s). In the last row of Table 8 is Student Outcomes (teachers self-reported perceptions of student responses to DI practices). This variable is the ultimate effect or outcome variable in our model, which is consistent with Guskey’s (2000) framework for evaluating professional development outcomes. We hasten to remind the reader that Student Outcomes is a self-report variable as opposed to an independent measure of student achievement or outcomes and is therefore limited.

Other endogenous (outcome) variables are:

- DI Knowledge (teachers’ understanding of DI)
- DI Beliefs-Learning (belief that DI will improve student learning)
- DI Beliefs-Engagement (belief that DI will improve student engagement)
- DI Efficacy (teacher’s confidence in implementing DI)
- Teacher Practices (the extent to which teachers engage in DI practices in their classrooms), and
- DI Continuum (a self-assessment of the extent to which DI has been integrated into teachers’ practice – see Figure 12 in section 5.2).

Many of these variables are either single items or composites that use a five point agree-disagree scale or a frequency of use scale. In all cases, teachers’ self-reports were, on average, above the scale mid-point and therefore reflect favourable opinions about their DI beliefs, knowledge and practices. The standard deviations show some variability in teacher responses meaning that a range of opinions was evident.

---

10 We used Cronbach’s alpha to measure internal consistency or the reliability of the scale. Alpha values above .80 are considered to reflect highly favourable variable internal consistency. This indicates that the items in the scale are all closely related to one another.

11 Two thirds of the sample of teachers fall within ±1 SD of the Mean.
### Table 8 Variable descriptions for teacher sample

<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exogenous variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DI Intensity</strong>: Composite based on average number of activities from Q14 participated in. 15 options from which to choose (e.g., one-time workshop, workshop series, learning team/network, DI summer program). Response subjected to log transformation to normalize the distribution.</td>
<td>1.01</td>
<td>0.35</td>
<td>4,119</td>
<td>.89</td>
</tr>
<tr>
<td><strong>Grade Level</strong>: Dichotomous variable recoded from Q5: 1 = mostly intermediate (gr. 7-8) (29.8%), 2 = mostly intermediate/senior (gr. 9-12) (70.2%)</td>
<td>1.72</td>
<td>0.46</td>
<td>4,127</td>
<td>na</td>
</tr>
<tr>
<td><strong>DI Experience</strong>: Length of time involved in DIPLS activities, from Q13: 1 = &lt; 1 yr. (12.8%), 2 = 1 yr. (14.0%), 3 = 2 yrs. (24.0%), 4 = 3 yrs. (19.3%), 5 = + yrs. (29.9%)</td>
<td>3.40</td>
<td>1.97</td>
<td>4,127</td>
<td>na</td>
</tr>
<tr>
<td><strong>DI Valuing</strong>: Composite based on average number of DI activities from Q14 that were valued. 15 options from which to choose (e.g., one-time workshop, workshop series, learning team/network, DI summer program).</td>
<td>3.80</td>
<td>0.72</td>
<td>4,120</td>
<td>.95</td>
</tr>
<tr>
<td><strong>Endogenous variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DI Knowledge</strong>: Q15 “As a result of my participation in DI professional learning opportunities I have a better understanding of how to implement DI in my classroom”- 5 point agree-disagree scale (Strongly agree = 5; strongly disagree = 1).</td>
<td>3.84</td>
<td>0.85</td>
<td>4,107</td>
<td>na</td>
</tr>
<tr>
<td><strong>DI Belief-Learning</strong>: Q16 “I believe that by implementing DI, student learning can be significantly improved” - 5 point agree-disagree scale (Strongly agree = 5; strongly disagree = 1).</td>
<td>4.07</td>
<td>0.80</td>
<td>4,875</td>
<td>na</td>
</tr>
<tr>
<td><strong>DI Belief-Engagement</strong>: Q18 “I believe that by implementing DI, student engagement can be significantly improved” - 5 point agree-disagree scale (Strongly agree = 5; strongly disagree = 1).</td>
<td>4.14</td>
<td>0.80</td>
<td>4,875</td>
<td>na</td>
</tr>
<tr>
<td><strong>DI Efficacy</strong>: Q23 “I feel confident in my ability to differentiate instruction according to the needs of my students” - 5 point agree-disagree scale (Strongly agree = 5; strongly disagree = 1).</td>
<td>3.86</td>
<td>0.81</td>
<td>4,875</td>
<td>na</td>
</tr>
<tr>
<td><strong>Teacher Practice</strong>: Q21 “In my current practice, I…” 8 items (e.g., determine student level of readiness, provide assignments to meet varying levels, provide choices to students, create flexible groups - Composite scale based on average on 5 point frequency scale (Very often = 5; never = 1).</td>
<td>3.80</td>
<td>.066</td>
<td>4,875</td>
<td>.89</td>
</tr>
<tr>
<td><strong>DI Continuum</strong>: Q20 Self-placement on DI continuum (1 = developing instructional routines and skills, 2 = expanding instructional routines and skills; 3 = developing routines, habits and skills for DI; 4 = sustaining a DI culture in the classroom)</td>
<td>3.24</td>
<td>0.87</td>
<td>4,875</td>
<td>na</td>
</tr>
</tbody>
</table>
Table 8 (cont.) Variable Description\(^1\)

<table>
<thead>
<tr>
<th>Student Outcomes: Q24 “As a result of implementing DI in the classroom, I have observed the following among my students” 10 items (e.g., increased engagement/motivation/commitment; increased confidence/self-esteem; improved ability to make choices, increased skill at self-assessment) - Composite scale based on average on 5 point agreement scale (Strongly agree = 5; strongly disagree = 1).</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.51</td>
<td>0.67</td>
<td>4,126</td>
<td>.93</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)Note: Mean = average; SD=standard deviation (2/3s of teachers are within plus or minus one SD of the Mean); N = number of valid questionnaire responses; and α = Cronbach’s alpha (measure of composite variable reliability).

4.2 Variable Inter-relations

In Table 9 we show the extent to which these variables associate with one another. Presented are bivariate correlations of each variable paired with all others.\(^12\) In most cases the correlations are positive and moderate in size which is good. Correlations that are very high would imply that two variables are measuring precisely the same construct.\(^13\) One variable, Grade Level, consistently correlated negatively, albeit weakly, with other variables indicating that teachers in grade 7-8 were slightly more likely to self-report favourable DI knowledge, beliefs and practices than were their intermediate-senior colleagues.

4.3 Pathways of Influence among Variables

A simplified version of our final path model for the teacher sample appears in Figure 10. The reader will find the technical version of this model in Appendix O which shows that the model is trustworthy (according to goodness of fit indices) and the precise size of the path coefficients. The curved double ended arrows imply that the exogenous variables are correlated with one another, as expected from the results presented in Table 9.

In Figure 10 we created two ‘higher order’ or ‘latent’ variables based on variables in Table 8 that were conceptually similar. DI Belief is represented by the two observed variables corresponding to learning and engagement dimensions, and DI practices is represented by Teacher Practice and the DI Continuum score.

The ultimate effect variable in the model is teacher-perceived Student Outcomes, which is shown to depend quite substantially on both DI Beliefs and DI Practice. It can also be observed that DI Belief has both a direct and an indirect effect on Student Outcomes since DI Practice depends on DI Belief as well. However, the direct effect of DI Belief appears to be stronger. The variables in the model explained approximately 46% of the variance in Student Outcomes.

---

\(^12\) Zero-order correlations measure the degree of association between only two variables, regardless of how they might relate to other variables. The correlations theoretically range from -1.0 (high negative, as one variable decreases, the other increases) to +1.0 (high positive, both variables increase together). Values near zero imply no relationship. Due to the large sample size, all of the correlations are statistically significant. So in the present case, it is preferable to think about strength of association (.80+ high, .50 - .79 moderate-high, .20-49 moderate low, below .19 low or no relationship).

\(^13\) Sometimes referred to as multicolinearity, this potential problem is not a concern in the present study.
In addition to being affected by DI Beliefs, DI Practice is strongly influenced by the extent to which teachers engaged in DI professional learning (DI Intensity) as well as their confidence in implementing DI (DI Efficacy). DI Intensity was also found to directly influence teachers’ knowledge of DI, although experience with (DI Experience) and the extent to which teachers value DI (DI Valuing) did not seem to factor in. The variables in the model explained approximately 65% of the variance in DI Practice.

Teachers’ belief in DI as an approach is likely to generate positive effects on student learning and engagement (DI Belief) was found to depend on teacher’s DI knowledge and their valuing of relevant professional learning activities. Several paths or relationships were found not to be particularly influential. Teachers’ experience with DI was not shown to have any substantial effects. Likewise, grade level was not very predictive. As expected from what we learned in Table 9, Grade Level path coefficients were low and negative, reflecting a slight favourable bias toward grade 7-8 teachers.
The total standardized effects of each variable (direct and indirect effects combine) on DI Practice and Student Outcomes are presented in Table 10. The larger the effect, the greater the influence on the outcome variable. The two largest influences on DI Practice are DI Efficacy and DI Beliefs. When DI Belief is increased by one standard deviation, for example, DI Practice goes up by .320 standard deviations. For Student Outcomes, the largest influences are DI Belief and DI Practice, as illustrated below.

### Table 10 Total effects of path model variables on DI Practice and Student Outcomes

<table>
<thead>
<tr>
<th></th>
<th>DI Practice</th>
<th>Student Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI Intensity</td>
<td>.252</td>
<td>.121</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.128</td>
<td>-.091</td>
</tr>
<tr>
<td>DI Experience</td>
<td>.121</td>
<td>.050</td>
</tr>
<tr>
<td>DI Valuing</td>
<td>.222</td>
<td>.275</td>
</tr>
<tr>
<td>DI Knowledge</td>
<td>.210</td>
<td>.175</td>
</tr>
<tr>
<td>DI Belief</td>
<td>.320</td>
<td>.554</td>
</tr>
<tr>
<td>DI Efficacy</td>
<td>.624</td>
<td>.221</td>
</tr>
<tr>
<td>DI Practice</td>
<td>--</td>
<td>.354</td>
</tr>
</tbody>
</table>

We now turn to an examination of what our quantitative and qualitative data have to say in response to each of the evaluation questions. Where appropriate and relevant we will return to the path model appearing in Figure 10 for insight concerning the response.

### 5.0 State of Implementation of Differentiated Instruction

This section addresses the responses to evaluation questions probing the state of the art of DI implementation.

#### 5.1 What does the practice of DI look like in Ontario classrooms Grades 7-12?

Case study responses illustrated a wide variety and range of DI practice within and across regions, boards and individual schools. In some case study sites DI was adopted as a board-wide initiative (“every child, every school”) while other sites used a less focused approach. Some boards/schools developed departmental or cross-curricular DI teams with the intent of broadening and deepening DI practice; however, practice tended to be limited to pockets of teachers within individual schools.
Figure 10 Final path model for teacher sample
**Teachers**

Teachers perceived that DI was more likely to be practiced in elementary schools and in open and applied level courses at the secondary school level. Certain subject areas (e.g., English, Science) were thought to be better suited to the practice of DI. Several teachers suggested that certain elements of DI (e.g., grouping, choice) were easier to incorporate into practice than others. Many teachers – including those who participated in the school-based DI groups – noted that they did not employ DI strategies on a daily basis, nor did they consider this to be a realistic/achievable goal. As one DI group member stated, “DI doesn't have to happen all the time. Teachers need to do what they are comfortable with.”

**Administrators and Board Personnel**

Interviews with administrators and board personnel yielded similar responses. Key informants tended to view teachers’ practice of DI on a spectrum that was dependent on a number of factors, as illustrated in the following responses:

- Out of the teachers I have, I have some who embrace it, others who think it's a pain in the butt and ones who won't even go there, so it's not consistent. (Board Personnel)
- Practice is across the spectrum. Some curriculum areas are more advanced (visual arts, techs) and perhaps more suited to DI. (Secondary School Principal)
- We don't have everyone on board, but we do have some teachers who are really quite involved in DI; it's part of their practice . . . it really depends on the school. (Principal, Student Success)
- We'll hear some people say that they're good at doing the DI for the product, but we're not good at doing the DI with the content (Principal, School Programs)
- I think it gets to be a harder sell to the 11th and 12th (grades); there's no doubt about that, especially with university bound kids. Now those teachers are going to take the same kind of instructional practices that they use with kids in University which is direct instruction and lots of lecturing - not always your best strategies. (Board Personnel)

In summary, teachers, administrators and board personnel perceived that the practice of DI varies greatly both within and between classrooms, schools and boards. Some of the variation was attributed to the implementation practices of the school or board and some to the particular subject or grade level being taught. It was suggested that certain levels (e.g. open, applied) and subjects (e.g. language arts, science) were better suited to DI.

5.2 **To what extent are teachers (7-8, 9-10, 11-12) practicing DI?**

**Teachers**

In the provincial survey, teachers were asked to respond to several elements of DI with respect to how often they practiced these on a scale from 1 (Never) to 5 (Very Often). The frequency with which teachers reported using each of the elements of DI is listed below in Figure 11. It is evident that overall, teachers report using most elements of DI regularly in their practice. There were no significant differences between the average use of DI practices among teachers in project as compared to non-project boards.\(^\text{14}\)

\(^{14}\) \(F(1, 4874) = .25, p < .615.\)
Further evidence of teacher use of DI in their classrooms can be drawn from the DI Continuum (Table 11). This item was developed by the Ontario Ministry of Education and has been included in the DI in Action survey for a number of years as a way for teachers to reflect on their practice along the continuum. In the current sample, the majority of teachers (50%) placed themselves at the point of Developing the routines, habits and skills for DI, while approximately 20% felt that they were Sustaining a DI culture in the classroom.

The percentages of teachers who reported at each point of the continuum are presented below. Teachers in non-project boards reported significantly higher self-ratings on the DI Continuum but the effect sizes were so small as to support the conclusion of no differences.\(^\text{15}\)

Grouping and choice were the DI elements mentioned most frequently by teachers in the case study focus groups. A number of flexible grouping strategies were discussed, including homogeneous grouping, heterogeneous grouping, and problem-solving teams. In some instances teachers permitted students to choose their own groups (based on perceived ability, interests or partner preferences) or to work independently. With regard to choice, teachers indicated that they were most likely to provide students with options for daily activities and products (e.g., essay, video, PowerPoint).

A few teachers stated that they had determined students’ learning preferences by talking with them (and their previous teachers) and through multiple intelligences testing. Many teachers indicated that they used a variety of presentation methods (e.g., PowerPoint, SMARTboard, hands-on activities) in an attempt to meet the needs of visual and kinesthetic learners.

\(^{15}\) \(F(1, 4874) = 9.69, p < .002; \eta^2 = .002\)
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Table 11 DI Continuum

As a result of the professional learning and experience I have had with DI, I would place myself on the DI Continuum at this time at...

<table>
<thead>
<tr>
<th>Developing Instructional Routines and Skills</th>
<th>Expanding Instructional Routines and Skills</th>
<th>Developing the Routines, Habits and Skills for Differentiated Instruction</th>
<th>Sustaining a Differentiated Instruction Culture in the Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.7%</td>
<td>21.0%</td>
<td>50.1%</td>
<td>18.2%</td>
</tr>
</tbody>
</table>

- **I design instruction, assessment, evaluation and the learning environment for the class as a whole based on curriculum expectations and my own strengths and preferences**
  - I design instruction, assessment, evaluation and the learning environment based on curriculum expectations and a general sense of the learning needs of the class.
  - I design instruction, assessment, evaluation and the learning environment based on curriculum expectations and a general sense of the learning needs of the class. I try to design a variety of options for my students.
  - I design instruction, assessment, evaluation and the learning environment based on curriculum expectations and on the specific learning needs of students in the class. I try to ensure that the learning experiences I provide are a ‘good fit’ for each of my students.

- **In my practice, all students learn and demonstrate their learning in the same way all or most of the time.**
  - In my practice, students experience, over time, a variety of ways to learn and/or ways to demonstrate their learning.
  - In my practice, students have a choice of ways to learn and/or ways to demonstrate their learning on an ongoing basis.
  - In my practice, students are routinely provided with, or choose when appropriate, ways to learn and/or ways to demonstrate their learning that are designed for their particular learning needs.

**Same for all students (LITTLE DIFFERENTIATION)  Different options for different students (MUCH DIFFERENTIATION)**

Strategies used to determine student readiness included diagnostic testing and brainstorming exercises to establish what students already knew about a particular topic at the beginning of a unit. In some cases teachers used this information to inform choice board options and/or to create lessons with multiple entry points.

Several teachers perceived that student interest was enhanced through the integration of technology and web 2.0 tools (e.g., blogging, Facebook) and by making curriculum relevant to students.

**Administrators and Board Personnel**

Administrators and Board Personnel answered slightly different questions on the survey relating to the practice of DI (see Figure 12). Their focus was on providing support for teachers or on supporting staff to develop capacity in the area of DI. Those board personnel who were superintendents were not required to answer this question as it was felt they may not be responsible for this level of specificity of staff development. The responses of each group are listed in the following figure. The average use of each element fell between 3 (sometimes) and 4 (often), with administrators reporting slightly higher use of each element.
In the case studies, several administrators and board personnel reported that they had seen evidence of DI practice in their schools (e.g., classroom observation of group work, variety of student work displayed) and were confident that some teachers were making an effort to determine student need and adjust their practice accordingly. Several key informants perceived that current DI practice was primarily teacher-directed and that further development and practice was required to enable students to take more ownership of their learning and achievement. As one board employee stated, “[DI] has to start on the student’s desk”.

**Students**

Focus group participants were asked about their teachers’ classroom practice with regard to grouping, choice, assessment and environment. Student experiences of these elements varied widely and were often perceived to be dependent on the teacher, subject and grade level. For example, some students believed that certain subjects (e.g., math) required more “structure” while other subjects (e.g., gym, drama, art) were less restrictive. A few students reported that they were able to choose the level and type of work they did in their classes:

*In a lot of my classes the work does vary from person to person.*

*We had a tremendous amount of choice in Science last year. The teacher was open to any ideas.*

Students often discussed the various grouping strategies used in their classes. Not all students appreciated flexible grouping, however, as several raised concerns with regard to assessment (“one person does all the work but everyone gets the same mark”). It was also noted that groups could be “cliquey” or awkward depending on who selected them.

In summary, most teachers appear to have incorporated a number of DI elements into their teaching practice. In particular, teachers reported determining the interests and readiness of their students as well as drawing on strategies such as flexible grouping and choice. Administrators and board personnel similarly reported supporting their staff in these areas and observing evidence of DI practice in their schools. Students also described the use of DI...
practices by some of their teachers, again highlighting the variation within and across grade levels and schools.

5.3 To what degree is there an awareness and understanding of DI at the classroom, school and board levels?

Teachers

On one open-ended question on the DI survey, teachers described a range of understanding with respect to DI. Some spoke of confusion surrounding DI; how it was defined and which practices it comprised. Others spoke of an awareness of DI rather than a real understanding – they had heard the term but were unsure how it related to their own practice and to other initiatives. Responses from teachers, administrators, and board personnel alike included the perspective held by some that DI was simply a new term for the kind of teaching that many had been engaged in for years; that it had simply been repackaged.

Most teachers in the case study focus groups indicated some level of awareness of DI, most often through exposure to professional learning opportunities, specific resources (e.g., DI Educator Package) or conversations with peers. Teachers' awareness of DI was not necessarily synonymous with understanding, however, as a wide range of perceptions were expressed.

A few teachers stated that they had no idea what DI was or what classroom practices might be associated with it. One teacher conceded, “I have invested a lot of time trying to figure out what (DI) is and I still couldn't define it for you.” Others appeared to have a surface understanding of DI but were unable to elaborate on the concept in any detail. Some interpreted DI as a personal approach to teaching:

- DI is more than just your teaching strategies - I think it’s more of a philosophy, and who I am as a teacher. My philosophy is going to be totally different from his [gesturing to neighbour].
- Every one of us probably has a different idea of what DI is and how to do it and how to make it work in our classroom.

Several teachers perceived that they had been “doing DI” for years. As one teacher put it, “DI is not new. We've created something out of nothing. DI is good teaching practice.” Some believed that DI was a rebranding of previous initiatives: “It was called literacy across the curriculum and then it was called something else and now it is called DI”. A number of teachers were unable to discriminate between DI and other initiatives or frameworks, mostly notably multiple learning styles:

- In teacher’s college we called it multiple learning styles but what’s the difference? I can’t pinpoint the actual difference between DI and multiple learning styles. I cannot pinpoint what the differences should be in my teaching because I’ve already done diagnostic assessment to find out where my kids are at when they come into my class at the beginning of a unit.

Confusion around the term led some participants to question whether they were practicing DI.

A few educators demonstrated a deep understanding of DI and its relationship to classroom practice. One teacher described how her comprehension of DI had evolved though her participation in a school-based team:

- Originally when I thought of DI, I thought it was doing cool activities, you know, whether it was kinesthetic things where the kids are moving around, or stuff with chart paper and
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markers where the students have to be actively involved in the lesson. But I find over the last two years it has evolved to mean more about looking at where students are at, really figuring out what they need, and then just designing your lessons based on that.

Administrators and Board Personnel

A majority of administrators and board personnel perceived that teachers were aware of DI, but that their levels of understanding varied. One administrator suggested, “If you ask 30 different teachers you will get 30 different answers about what DI is”. One Student Success Leader posited that there are two tiers of educators; those who know how to use differentiation with precision and purpose (they know what their students need, why they need it, and what strategies to use to meet those needs) and those who believe that using a variety of approaches and techniques will be beneficial for students.

Like many of the focus group participants, a number of administrators and board staff questioned the utility of the term “DI”:

Di has been around as long as I’ve been teaching (36 years) in different forms. It’s good pedagogy and I think we just have to sell good pedagogy. Do we necessarily have to rename it?

Similarly, a colleague in the same board questioned whether DI was really something new and special that should be highlighted or if it should be assumed that teachers are already embedding elements of DI into their daily practice. An instructional program leader in another board proposed that while embedding DI was a good idea in many ways, she wondered if teachers would lose sight of DI if it wasn’t “in the spotlight”. DI was described by a Principal of Student Success as “a bit of a paradox”; something that should be part of everyday teaching but it is still viewed as a special project.

Administrators and board personnel in one case study site perceived a strong link between DI and the use of technology, as evidenced in this quote:

That's pretty much the definition of DI; you've got to have all sorts of tools available to you (e.g., iPads, MacBooks, software) in order to present it in different ways.

In another case study site, the use of three-part lesson planning in mathematics was viewed as a central component of DI. In both instances the perceptions held by administrators and board personnel appeared to impact the implementation of DI as well as teachers’ beliefs and experiences.

Students

Although students in the focus groups were not asked specifically about their understanding of DI, many students demonstrated an awareness of their own strengths or learning style (often using terms like visual or kinesthetic to describe themselves) and an understanding that different students were likely to learn in different ways. Several students believed that they benefitted from particular approaches and strategies in the classroom such as hands-on activities or working in groups. When asked if their teachers generally taught in ways that matched their learning preferences, students reported a wide range of experiences dependent on the subject, grade, level and individual teacher.

The best teacher can teach in all different ways but I don’t think all teachers can do that. Some teachers just do what they do and even if you ask them to change their ways, they won’t. In math, my teacher can explain it in all different ways. But my science teacher isn't like that. He just doesn't change. (Grade level unknown)
Teachers should be trying to apply different strategies for everyone, but in science you have the ability to do labs and projects and tests, but you can't do a lab in math. (Grade level unknown)

We have applied and academic. In academic it's more like lecturing and if it's applied its more hands on, I guess? (Secondary school student)

In summary, while awareness of at least the DI terminology is high across the province, this question again reflects the range that exists across the province with respect to understanding DI. The case studies revealed confusion on the part of educators regarding the key components and practices that would fit within the DI framework. Some viewed DI as an ‘add-on’ component to be inserted throughout the day and others felt that DI was ‘good teaching’ repackaged. Others believed that DI was synonymous with the use of technology in the classroom and still others perceived it as instruction that included physical movement and hands-on activities. Many educators agreed on common elements of DI including teaching to a variety of learning preferences, and presenting information multiple ways in order to meet the needs of a range of students.

5.4 What factors enhance or impede the implementation of DI?

In this subsection we consider factors that affect DI implementation either as positive enhancements or as barriers or impediments to desired implementation.

5.4.1 Enhancements

Teachers

The path model described at the beginning of this section (Figure 10) revealed several teacher-related factors that influenced teachers’ use of DI Practice. Teachers with a higher sense of efficacy with respect to implementing DI, as well as those who held positive beliefs regarding the impact of DI on student learning, were more likely to integrate elements of DI into their teaching on a regular basis.

In the case studies, teachers were not asked specifically about enhancements; however several stated that opportunities for peer collaboration had facilitated their practice. Material resources (e.g., classroom tools, technology) and administrative support were also identified as helpful.

Admin needs to know and understand and be on board and support you . . . because if you're trying [DI] for the first time, you're going to mess up. It's not going to be perfect. It takes a while to really become proficient at this.

Administrators and board personnel

Like teachers, administrators and board personnel perceived that teacher collaboration (i.e., “professional learning, sharing, thinking and reflecting with peers”) had enhanced DI implementation at the classroom level. One key informant stated that the board’s job-embedded learning model (described as having mentors in the room with teachers and students) had “expanded instructional practice significantly”. Other factors thought to enhance the implementation of DI included funding for teacher release time, teachers who advocated for themselves and encouraged other teachers to “get on board”, support from upper administration and principals (particularly in project schools), and a board team that reflected on and consolidated learning. Providing teachers with evidence of improved student outcomes was also perceived to boost DI implementation.
5.4.2 Impediments

Teachers

Analyses of an open-ended question on the surveys for teachers revealed several factors that impeded their implementation of DI. The most prevalent of these was time. Many teachers believed that the responsive teaching that was central to DI required additional preparation time. They also felt that time was required in terms of more specific professional learning and shared planning.

In my experience, we have had too many DI experts speak to us at PD days/opportunities, but not enough time with colleagues to co-plan, co-teach and debrief with specific strategies.

A second impediment to implementation that was highlighted by teachers was support for DI particularly in terms of professional learning as well as human and subject-specific resources.

The information has been presented and many teachers are aware of what they should be doing but there is not enough mentoring to help teachers incorporate DI strategies. There needs to be more observation of classroom teachers to ensure that they are following through with recommended practice. There is a disconnect between learning the information and making it part of classroom instruction/evaluation.

As found in open-ended survey data, the impediments mentioned most often by teachers in the case studies were related to time. Teachers did not believe that they had enough time to adequately process, plan and develop their practice of DI.

The Ministry hands out these things without making sure that people “get it”. Teachers need the same kind of chance to learn that they are expected to give the kids . . . time to learn, see it modeled, time to practice.

I think teachers are saying yes, we are interested, yes we want to try these practices, yes we know they are going to work because your classroom management becomes easier [and] because the students are engaged, active and interested. So yes, we want to do this. But give us some resources; give us some time.

However, many teachers reported that they were reluctant to leave their classrooms to pursue professional learning opportunities. As one teacher stated,

Time is a double-edged sword because in order to get the time to do the DI stuff, that takes time away from the classroom so you are not with the students that you really want to serve.

Teachers also discussed the extra time required to prepare lessons for a supply teacher and to review or re-teach lessons upon their return. Some teachers perceived that the onus was on them to engage in professional learning on their own time, which was considered an unreasonable expectation given the multiple demands on teachers’ time both in and out of the classroom. Many believed that DI-rich activities took additional time to plan and prepare and took longer for students to complete. Some expressed concern that they were already pushed to cover the curriculum using more traditional approaches.

Several teachers perceived that the implementation of DI was hindered by a scarcity of technology resources (i.e., limited or unreliable access to the internet, SMARTboards, computers) and inadequate funding of other resources (e.g., whiteboards and markers) used in hands-on activities.
Teacher-specific characteristics were also thought to impact the implementation of DI. “Keener” teachers were perceived as more likely to embrace DI while others may be resistant to change. It was also proposed that the self-reflective aspect of DI practice might be uncomfortable for some. Teachers’ beliefs about and attitudes toward DI almost certainly influenced its uptake. Although framed as an enhancement, the significant influence of beliefs about DI on its implementation was also shown in the path model. A commonly expressed perception among teachers was that DI was “the flavour of the month”, soon be replaced with another initiative (so, as one teacher put it, “why bother?”). In one particular focus group a few teachers perceived that the implementation of DI was triggered by budget cutbacks for at-risk and high needs students:

I think they’ve said, “Teachers, you need to differentiate for these kids because we no longer have the money or the resources to put in segregated classes for children with this, that or the other needs”. It’s pretty unrealistic. Because trying to be able to manage that group let alone to differentiate for all of their needs at the same time, with 30 kids sitting there? It’s utterly ridiculous.

Student attitudes were also perceived to impede DI implementation. Focus group participants reported that some of their clientele did not “buy in” to DI strategies. Some had observed that the students whom they believed could benefit the most from DI were often the ones who were reluctant to participate (“Just tell me what I need to do so I can hand it in and leave”). Poor work ethic, lack of motivation, and students’ reluctance to take control of their own learning were also noted as barriers to DI implementation in the classroom.

Teachers identified two structural impediments to the implementation of DI. Those who moved from class to class or taught in portables reported that their access to technology and classroom resources was limited (often by what they could carry). One secondary school teacher noted that she found it difficult to get to know students and their interests in the course of a semester. A colleague in the same group suggested that this impediment might be overcome through improved teacher communication.

In several focus groups, teachers raised concerns with regard to the assessment of student work in the context of DI practice. As one teacher stated,

You want to differentiate; it’s good pedagogy, but at the end of the day I have to find a way to evaluate (students) equitably and fairly. Does differentiation match with that sense of equity? How do you communicate accountability at the same time as introducing some of these strategies?

Concerns about assessment were voiced most often by secondary school teachers of academic level courses, many of whom were unsure how to equitably assess different products and/or evaluate the efforts of individual students in group projects. “How do you do this”, one teacher asked, “with students who are going on to university and need to compete using some kind of gradient?”

**Administrators and Board Personnel**

A small number of administrators and board personnel also responded to the open-ended survey question and listed several impediments to implementation including teacher resistance to change (particularly at the secondary level) and a lack of effective professional development.

I found that in the secondary setting not much opportunity was given for professional development in this area. Although there were some presentations at Staff Meetings or PD Days there was no follow up or time to work with other teachers on a continuing basis to improve one’s understanding.
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Within the case studies, administrators and board personnel indicated that they were acutely aware of the multiple demands on teachers' time. Moreover, they understood teachers' reluctance to leave their classrooms for professional development and that the “hurriedness” of the classroom often meant that PD was not translated into practice. While there was an understanding that teachers required time to engage in professional learning, process the wealth of DI resources, plan and adapt lessons with a DI focus and collaborate with their colleagues, how to best provide that time presented an ongoing challenge for administrators and board staff.

A number of board staff perceived that they did not have adequate time to process, understand and assess DI learning for themselves or to plan effective professional learning for their staff. One vice principal noted that his role did not allow sufficient time to sit down with teachers to discuss how to move them along the DI continuum. Another administrator stressed that time was “the single biggest factor in the implementation of DI” as there was simply not enough time to address the multiple demands and initiatives coming from the board. Two board personnel asserted that the three year timeline adopted by the board for the implementation of DI was too brief to have a true system-wide impact. One stated,

*We are changing the way classrooms run so completely that this is not something that happens in three years.*

From a human resources perspective, many perceived a shortage of leadership personnel who could “spread the message”. Moreover, the responsibility of implementing DI was often shared by several personnel in a single board - most of whom had multiple initiatives in their portfolios. One Principal of Student Success explained, “I don’t have a DI person. This is one little tiny thing that they do in the scheme of their jobs.”

Some unique impediments emerged for personnel employed in DIPLS project boards. As project schools tended to shift over time, board personnel experienced a lack of continuity with regard to school staff and relationships. Administrators in one particular project board were frustrated with the poor communication they had received from the board with regard to the initiative. Some had been unaware of the school board’s involvement with the Ministry DIPLS team and others were unclear as to how project schools had been selected and who was involved. One elementary school principal in the board asserted that the project had “come on suddenly”, and at a busy time of year.

With regard to material resources, several board personnel perceived that they did not have sufficient funding to develop and fund professional learning opportunities for teachers. One key informant reported that the board’s DI budget had been reduced from $77,000 to $20,000 over a three year period. Like teachers, administrators and board personnel perceived that limited technology resources (including IT support) served to impede the implementation of DI at the classroom level. In addition, a shortage of classroom-based resources was identified as possible hindrance to implementation:

*As far as resources, DI is not a cheap thing. I mean, there are things you can do like . . . changing seating arrangements and mixing up groups and things like that - that doesn’t cost you anything. But when you’re talking about the different strategies that we’re using, there is sometimes a cost. And when you talk about the different products that you want the kids to be able to do, you can’t say to a student that one of their choices is to produce a rap on video if you don’t have the equipment to do it. Some kids will have the equipment. But a lot of kids don’t. And you don’t want it to be that the “haves” can do [the video] and the “have nots” will do something on paper, you know?*
As was found in the teacher focus groups, administrators and board personnel perceived that there would always be a certain percentage of teachers who were resistant to change, or as one Principal put it, “slow to get on the bus”. They were also aware that many teachers viewed DI as an “add on”, an “extra burden”, or an initiative that would soon pass. Some administrators and board personnel expressed concern that the marketing of DI as “a whole new instructional strategy” might scare teachers off, including those who may already be practicing elements of DI. A number of board staff believed that DI was overwhelming for some (“Where do I start? How much is enough? What do I do next?”). One elementary school principal contended that the wide range of variation in teacher attitudes, personalities and experience made it difficult to know how to differentiate professional learning opportunities for staff.

One board level key informant proposed that “conventional wisdom, tradition, and attitudes about education” were possible barriers to DI implementation as a student who thought to require something “different” may be viewed as “less successful”.

In a similar vein, teachers’ misconceptions about DI (e.g., DI is for certain populations – students in the gifted or applied streams, DI is synonymous with particular tasks or activities) were identified as potential impediments to the implementation of DI. In the experience of one Instructional Program Leader, misconceptions were more likely to arise when teachers were left unsupported in the classroom:

> It’s funny how things can twist and turn into something they weren’t intended to be. Teachers have the best intentions, they aren’t trying to skew things . . . it’s just that they need the coaching and someone in the room who can question and probe.

A number of structural discrepancies were discussed by administrators and board personnel in relation to the implementation of DI. For example, the physical structure of traditional schools was viewed by some as problematic. As one Elementary School Principal pointed out,

> We keep funding schools to be built with walls and classrooms and desks and chairs. If we are looking at DI really and truly . . . somebody needs to start looking at, and providing a different way of educating our kids. They need to change the factory model philosophy of the structures that we build, the type of funding, [and] what the funding is used for. But it seems like we keep putting money into the same exact structures.

In addition, continued pressure from the Ministry to “cover the curriculum first and foremost rather than focusing on student need” was noted by one high level administrator as a structural impediment to DI practice. Assessment practices were also perceived to be to counterintuitive to/in conflict with DI (which likely contributed to the confusion/discomfort expressed by teachers):

> You can do all the DI you want but there’s still an exam at the end of the term. (Acting Vice Principal)

> Ultimately what you achieve [at the end of high school] is a piece of paper with a number on it (Elementary school Vice Principal)

Societal —and more specifically, parental — expectations about education and assessment were also identified as possible impediments to the implementation of DI. One secondary school principal shared his experience:

> I’ll get the phone call saying, “Do you know what this teacher is doing in the classroom?” It might be great pedagogy but society thinks, “They haven’t brought home a math test. They haven’t brought home this or that. What are they doing in the auditorium for a math class? They should be sitting in rows with calculators.”
Perhaps not surprisingly, several administrators (and teachers) noted that parental concerns with regard to assessment tended to increase as students entered grades 11 and 12.

In summary, teachers’ implementation of DI is dependent on their sense of efficacy as well as their beliefs regarding the impact of DI on student learning. Other factors that participants believed enhanced the implementation of DI include teacher collaboration, access to job-embedded coaching, classroom resources and administrative support. Impediments to DI implementation identified by teachers, administrators and board personnel included insufficient time for professional learning as well as for planning and preparation. Structural impediments such as the rotary nature of secondary schools, which prohibited teachers from getting to know their students, well as well as the limited technological resources available, were also described. Many teachers, particularly those in senior academic classes, described a misalignment between DI practices and rigorous assessment and evaluation approaches as presenting a barrier to uptake. A significant aspect of the issue is whether assessment should be differentiated in a DI context, a question not easily answered. Board personnel noted the lack of well-trained leaders to support administrators and teachers in implementing DI. Misconceptions on the part of teachers, administrators, board personnel, students and parents with respect to the nature and purpose of DI were also listed as major barriers to implementation.

6.0 Impact of the DIPLS

We now turn to an examination of responses to evaluation questions around DIPLS impact. Of interest is the contribution of DIPLS to instructional practice, student achievement and engagement, school and classroom culture. We also looked for unintended outcomes of DIPLS.

6.1 What impact has the DIPLS had on instructional practice?

As was described previously, the relationship between teachers’ participation in DIPLS and their use of DI practices was explored in the path model. It was found that the greater the intensity of participation in DIPLS (e.g. more activities, more frequently), the higher the frequency of use of DI Practices by teachers. This significant relationship was partly mediated by the impact of DI Intensity on teachers’ DI Knowledge and Efficacy. In other words, those teachers who participated more often in DIPLS activities knew more about DI, felt more confident in implementing DI and thus drew on DI practices more often in their teaching.

6.2 What impact has the DIPLS had on student engagement, performance and achievement outcomes?

Teachers

The relationship between participation in DIPLS and perceived student outcomes was also explored in the path model. Teachers who took part in DIPLS more often did report more positive student outcomes, although the effect was small and entirely indirect. DI Beliefs and Practice mediated the relationship such that teachers who held more positive beliefs about the impact of DI on students also reported observing more positive outcomes among their students; they also included DI practices more often.

In the survey, participants were asked directly what influence the implementation of DI in their school/board had had on student outcomes. Specific areas of possible improvement were presented and teachers, administrators and board personnel responded on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree)(Figure 13). Across the three groups, the highest
endorsed item was engagement, followed by achievement and confidence/self-esteem. Board personnel were the most positive in their perception of the influence of DI on student outcomes, followed by administrators and teachers. Significant differences were found between project and non-project boards with the former reporting higher scores overall but an extremely small effect size suggested no differences.\textsuperscript{16}

**Figure 13 Perceived student outcomes resulting from implementation of DI**

Teacher and administrator responses to an open-ended question on the survey supported these findings; other positive outcomes that were suggested included increased interest in particular topics and greater independence.

> When students focus on where their strengths and weaknesses are, set goals, and make their learning personal, they become more involved in wanting to attain academic success. They no longer create limitations with whom they interact with because academic standings become irrelevant. They learn to appreciate learning from each other, therefore, creating a stronger sense of respect for each other as individuals with different levels of abilities.

Generally speaking, focus group participants associated DI with positive student outcomes. In particular, the provision of choice was often linked with increased student engagement and success. Several teachers noted the influence of technology in this regard.

> Jim does a lot with his classes for the kids who are interested in computers, laptops, Movie Maker... and animation. He gives them the opportunity to use those methods when they didn’t think they were going to be able to. And he’s like, ‘Why not? Here, grab the iPod, go in the hallway and record it’. And the kids are like, ‘Can I do that?’ So then

\textsuperscript{16} F(1, 4125) = 12.61, p < .000; $\eta^2 = .003$
they have that feeling that they can be successful, or that they do have a skill that’s going to be useful in a class when they didn’t think it was going to. And when a kid is done, they can go and help other kids, so they have that ability to walk around and talk to somebody else and explain to them, ‘This is how you use Movie Maker’. So they have a different role, and a light they can shine when they don’t always get to do that in their other classes. They have the opportunity . . . to be the smart one, to shine.

Administrators and Board Personnel

Several anecdotal observations were shared in the case studies. A perception shared by many key informants was that students were more involved and engaged as a result of DI. One key informant had witnessed the benefits of student grouping and had observed greater technology use among students. Another reported an increase in student achievement as evidenced by pre and post-test assessments.

The Principal of Student Success in a DI project board described “astounding results” in the math class of an especially skilled teacher. When DI team teachers in the same school contrasted the work of students who participated in “regular” lessons versus DI-rich lessons, they reported that the quality of work was “tremendously better” when students were offered a choice of activities.

Students

When asked what worked best for them, several students appreciated having choices in their work and exploring “real world scenarios” in class. A few students noted that exemplars had helped them to understand what they were doing well and what they could do to improve their work.

However, the principal motivator for students was technology:

- I like doing videos because that’s what I’m best at and I get better marks
- Students are more engaged in class when they use technology
- [Technology] makes you want to do the project more. If I can do a PowerPoint I can make it really good and put some time and effort into it

One high school student described in some detail how her Chemistry teacher taught the elements of the periodic table using a Facebook project (each student created a Facebook page for a particular element, then “friended” other elements and shared information through status updates, e.g., Hydrogen is in a relationship with Oxygen). She concluded by saying, “Teachers who use Facebook really engage kids. Everyone was excited, and everyone did really well. I’ve never seen people work so hard.”

In summary, teachers who participated in DIPLS activities more often also perceived more positive impacts of DI on student outcomes. Teachers, administrators and board personnel rated student engagement as the outcome most positively influenced by DI followed by achievement and confidence/self esteem. Participants in the case studies described the students whose achievement exceeded expectations when instruction was aligned with their interests and strengths. Students described engagement in learning resulting from the integration of technology and ‘real-world’ scenarios.
6.3 To what degree has the DIPLS had an impact on teaching and learning practices and culture at the classroom, school and board levels?

The concept mapping exercise (Strand I) engaged in by key informants across the province, provided direction in terms of outcomes observed as a result of DIPLS. The six outcome clusters were presented to teachers, administrators and board personnel on the survey and a rating of 1 (Strongly Disagree) to 5 (Strongly Agree) was provided. The average scores for each item are presented in Figure 14. Although overall ratings were similar, teachers did rate items related to student outcomes (engaging students and using assessment to facilitate student learning) as the highest while administrators and board personnel felt that items related to enhancing teacher practice were those most affected by DIPLS. Significant differences were found between project and non-project boards with the former reporting higher scores overall but again; effect sizes were so low as to suggest no differences.

Figure 14 Perceived DIPLS outcomes

In one open-ended question on the DI survey, a small number of administrators and board personnel described how DIPLS has impacted their school culture in positive ways. They supported many of the outcomes listed above including engaging teachers in enhancing classroom practice, and facilitating professional growth through reflective practice. Administrators also mentioned the increased collaboration across teachers in various departments and grade levels as a benefit arising from DIPLS. Other administrators believed that the teachers were feeling overwhelmed as they struggled to implement DI in what were often large classes of students with diverse learning needs.

In summary, teachers, administrators and board personnel perceived the impact of DIPLS as enhancing teacher practice and professional growth, in part through increased collaboration.

$^{17} F(1, 4126) = 14.28, \ p < .000; \ \eta^2 = .01$
across departments and grade levels. Participants also perceived positive student outcomes. Board personnel were most favourable in their rating of the impact of DIPLS on teaching and learning practices followed by administrators and teachers.

6.4 What unintended outcomes were observed?

Approximately 600 teachers, 100 administrators and 50 board personnel responded to an open-ended question on the survey regarding unintended outcomes of DIPLS. Participants interpreted this question on the survey in various ways. Many listed impediments to implementation of DI or students outcomes resulting from DI that were anticipated; these responses are integrated into the relevant evaluation questions.

Responses that speak to unintended outcomes included rejection of the framework by educators who feel that they have always practiced a style of teaching that reflects the key components of DI and who resent its ‘repackaging’.

I know that this point is a bit sensitive, but I believe that quality educators in the province have been "differentiating" for a very long time. Certainly, many strategies that are introduced to me as "new" are strategies that I have used since I first started teaching. The jargon and hullabaloo around "new" tends to turn some of my colleagues off.

A second unintended outcome perceived by some educators is the additional time and workload caused by the implementation of DI, particularly with respect to lesson preparation and monitoring of student progress.

More front-end work for me. Creating a differentiated classroom takes time, energy and resources.

Teachers also described several negative unintended outcomes of DI, rather than DIPLS specifically, on students. Some believed that DI allowed students to avoid areas of difficulty where practice was needed. Similarly, there was a view that DI did not serve students with special educational needs or those who were really struggling in particular areas but instead masked their areas of need. Furthermore, some teachers perceived DI as resulting in a lack of preparation in terms of post-secondary education; that by students being offered (and choosing) easier or lower-level options on their assignments, they would not have the writing skills and the work habits to be successful once they graduate.

In some pathways, it is a concern that when they attend a post secondary institution, where DI is not an option, that they have not been significantly prepared for the level of work and discipline to complete given tasks that have not been differentiated. Many graduated students have said that high school did not prepare them for university, where the general format is lecture/test/essay. There are no options and they felt like they had been "babied" and insufficiently prepared.

A few negative unintended outcomes were also identified in the case study findings, many supporting those of the survey question. For example, teachers reported that when offered a choice of product, some students chose the easiest option either to inflate their marks or to minimize effort. There were concerns that this might result in a false sense of achievement or confidence among some students. Other students tended to choose the same option repeatedly, thereby limiting their skill development. In some cases, students chose an option that was appealing to them but for which they had few skills to complete.

Perhaps the greatest concern raised by teachers was that the practice of DI in academic classes would leave students ill-prepared for the lecture based approach of most post-secondary institutions. As one participant noted, “there’s no DI in university”. Interestingly, this
Evaluation of the DIPLS

Concern was echoed by a number of academic level students in the focus groups. Many perceived that high school was “too easy” and did not adequately prepare them for the rigors of post-secondary education. One student explained that he was upgrading a few of his Grade 12 subjects as he didn’t feel ready for college. Another Grade 12 student worried that her marks would drop in university. She continued,

[My courses] could be a little harder. When you go into university it’s a lot harder and you don’t have a teacher there all the time to help you. You have to be more independent. We should be prepared more to be ready for university.

In summary, while few participants spoke specifically about unintended outcomes of DIPLS, the negative reaction to DIPLS by some educators who felt that it was simply new terminology for their existing teaching practices was noted. As well, some teachers described an increase in workload and preparation time needed to develop and implement DI effectively. Finally, with respect to unintended outcomes of DI, many teachers described how DI practices allowed students to avoid difficult work and ignore areas of need; they also expressed concerns that DI did not prepare students effectively for post-secondary education.

7.0 Effectiveness of Ministry Implementation of the DIPLS

In this final section of findings we present responses to evaluations questions around provincial implementation strategies. The questions were associated with school and board implementation practices, the mediating effects of context, and the effectiveness of Ministry resources and other approaches and strategies for implementation.

7.1 How have schools and boards implemented DI?

An analysis of the information gathered from the case studies and DI RAFTs relevant to the five case study sites would suggest a variety of implementation approaches both within and across school boards. For example, some boards used a job-embedded approach to implementation (e.g., coach model, school-based DI teams) while other boards relied on more traditional professional learning strategies (i.e., expert workshops). In the Toronto case study site, the implementation of DI varied by panel (with a focus on secondary) and by school (some adopted DI on a school-wide basis while others implemented DI on a departmental basis).

A commonly used approach was the weaving of DI into other Ministry frameworks (e.g., Professional Learning Cycles, Collaborative Inquiry, Teaching-Learning Critical Pathways) and initiatives (e.g., Growing Success, release of revised curricula). These integrated approaches may have helped DI to be viewed in the context of existing efforts rather than as an “add on”.

The case study data highlighted some varied approaches to professional learning (see Table 12). For example, a school board in the Ottawa region developed a series of after school events as an alternative to traditional PD sessions. An introductory session called the “DI after school special” was offered to teachers new to DI. A second event called DI101 encouraged teachers to interact with educators from DI project schools and to share resources. Finally, teachers in

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18 It must be noted that the information contained in the DI RAFTs referred to the board’s plans/intentions with regard to the implementation of DI rather than actual outcomes

DI project schools were encouraged to meet after hours with a team meal provided. The Principal of Student Success was pleased with both the increased level of interest and reduction in costs.

In summary, a range of practices exist both within and between schools and board with respect to preparing educators to implementing DI. These range from traditional workshops to job-embedded coaching, shared planning and the weaving of DI into other initiatives such as *Growing Success.*

**Table 12 Approaches to DI implementation**

<table>
<thead>
<tr>
<th>Region</th>
<th>Board plans for DI implementation (from RAFT documents)</th>
<th>Case study data</th>
</tr>
</thead>
</table>
| **Sudbury/North Bay** | • facilitators to work directly with teachers in coaching/modeling role  
• emphasis on peer coaching and co-teaching  
• development of DI champions and demonstration classrooms  
• development of digital resources, use of e learning  
• board and school-based workshops | • designated learning resource teacher in coaching role, works directly with teachers in class  
• emphasis on classroom use of technology |
| **Barrie (project board)** | • using Teaching - Learning Critical Pathways model, each school to complete 2 TLCPs with a focus on numeracy and literacy using DI strategies  
• DI knowledgeable facilitators to support TLCP process in 6 project schools by working with each school team and principal to focus on/enhance DI learning strategies | • facilitators ran professional learning sessions rather than working directly in the classrooms  
• attempt to coordinate the learning across the feeder schools  
• focus on three part math lesson approach |
| **Ottawa (project board)** | • focus on Professional Learning Cycles  
• varied approach using workshops and teams of DI teachers  
• DI team teachers to co-planning/co-teach and provide demonstration lessons | • two project schools with DI teams, mission of teams is to spread depth, breadth of DI practice  
• multi-level support (school teams supported by admin/student success teacher and two board consultants, consultants supported by Principals of Student Success/Special Education)  
• comprehensive approach to professional learning to appeal to teachers at all stages of DI practice |
### Region | Board plans for DI implementation (from RAFT documents) | Case study data
--- | --- | ---
**Toronto** | • school-based and network focused approach  
• teachers to work in flexible, collaborative groups  
• to use Ministry and locally developed materials based on work of Carol Ann Tomlinson, Cindy Strickland, Gayle Gregory | • implementation varies from school to school: for some, a school wide initiative, for others a departmental approach  
• increased focus at secondary level  
• elementary panel using Teaching - Learning Critical Pathways cycle  
• board professional learning tiered for different readiness of teachers, includes pull out sessions, job embedded support  
• DI integrated into new curriculum rollouts (e.g., secondary Math, Science)  

**Thunder Bay** | • DI knowledgeable facilitators to provide workshops to new teachers and DI Leaders and DI teams  
• focus on Collaborative Inquiry using Teaching - Learning Critical Pathways process  
• professional learning sessions with Karen Hume for all teachers 7-12 | • workshops offered on Multiple Intelligences  
• teachers attended Karen Hume workshops, shared info with peers  
• Carol Ann Tomlinson brought in to discuss DI in context of Growing Success  

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### 7.2 To what extent is implementation of DI mediated by school- and board-level context variables?

Drawing on the survey data, the influence of organizational support on the use of DI practice, student outcomes, participation in DI activities and DI efficacy was examined. Organizational support is defined as teacher perception of school and board support in terms of, for example, having necessary resources, and being encouraged to try new strategies. The variable is an average of twelve items\(^2^0\), which teachers rated on a 5-point scale (1 = Strongly Disagree to 5 = Strongly Agree).

Two equal groups\(^2^1\) were created using the variable: those who perceived ‘low’ organizational support and those who perceived ‘high’ organizational support in their school and board. Results indicated that those who perceived higher support also reported greater student outcomes resulting from DI, more use of DI practice, more participation in DI activities and higher DI efficacy\(^2^2\). Although the differences were all statistically significant, the sole

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\(^{20}\) Cronbach’s \(\alpha = .91\)

\(^{21}\) Low organizational support: \( n = 2458\); High organizational support, \( n = 2417\).

\(^{22}\) Student outcomes: \( F(1, 4125) = 251.38, p = .000, \eta^2 = .06\); DI Practice: \( F(1, 4874) = 59.90, p = .000, \eta^2 = .01\); DI Participation: \( F(1, 4118) = 130.04, p = .000, \eta^2 = .03\); DI Efficacy: \( F(1, 4874) = 73.73, p = .000, \eta^2 = .01\);
comparison with an effect size that could be considered practically meaningful was the teacher-perceived student outcomes resulting from implementation of DI.

Within the case studies, the contextual variables that influenced the implementation of DI within the schools are described in section 4.4.

7.3 What resources provided by the Ministry have been the most and least effective in the implementation of DI at the classroom, school and board levels?

In the survey, participants were asked to select how often they had used Ministry DI resources (1 = Once to 4 = Many times) and how helpful these were in terms of implementing DI in the classroom (1 = Strongly Disagree to 5 = Strongly Agree). It is important to consider the frequency with which participants used the resource when interpreting its value. Teachers in project boards did not rate their overall resource use or perceived resource value differently than teachers in non-project boards. Table 13 shows ratings from teachers, administrators and board personnel.

Table 13: Frequency of use of Ministry DI resources by participant group

<table>
<thead>
<tr>
<th></th>
<th>Teachers</th>
<th>Administrators</th>
<th>Board Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI Teaching/Learning Examples</td>
<td>2.76</td>
<td>2.79</td>
<td>3.15</td>
</tr>
<tr>
<td>DI Educator Packages</td>
<td>2.73</td>
<td>2.79</td>
<td>3.20</td>
</tr>
<tr>
<td>DI Professional Learning Modules</td>
<td>2.65</td>
<td>2.84</td>
<td>2.92</td>
</tr>
<tr>
<td>DI Brochures</td>
<td>2.54</td>
<td>2.70</td>
<td>3.04</td>
</tr>
<tr>
<td>DI DVDs</td>
<td>2.24</td>
<td>2.97</td>
<td>3.09</td>
</tr>
</tbody>
</table>

**Teachers**

The Ministry resources mentioned most often by teacher focus group participants were the DI Educator Packages and the DI DVDs.

Most teachers were aware of the Educator Package (or “DI Binder”) and some owned a copy, though a few conceded that they had not looked at it. It was suggested by some that while the binder contained a wealth of information, it could be overwhelming to process.

Many teachers had been exposed to the DI DVDs at school-based or board-sponsored professional learning sessions. Critiques of the DVDs included that they were “outdated”, showed only one DI strategy (DI by product), and that the classroom(s) depicted in the videos were “too perfect” or idealistic:

> How can they have time to sit and discuss when there are 28 kids in the class?

> I want to see what DI looks like in an 11 college class, where I've got 26 kids who are working at all different levels.

Non-DI specific Ministry resources that were identified as useful in the context of DI were the EduGains website and curriculum documents.

**Administrators and Board Personnel**

Ministry DI resources were generally well received by administrators and board personnel.
I can't think of anything else other than those resources [binder, DVD, electronic] and in-services that would have put us where we are now. (VP, Secondary School)

[There are] lots of good resources available - keep them coming.

However, one key informant questioned whether the resources were being fully utilized in his board:

Ya, we had a lot of resources come out – things like this [gestures to DI Ministry facilitator packages] to support what was going on in the classroom. I suspect that most of that stuff went on the shelf and stayed there.

The Ministry resources identified (and praised) most often were the DVDs, Facilitator Guide and DI Educator package, described by an Instructional Program Leader as “a nice, simplified, approachable, easy to wrap your head around resource for teachers to use.”

A number of non-DI Ministry resources also identified as useful including the LNS monograph series, Growing Success, and the EduGains and eLearning websites.

Two suggestions were made for improvement with regard to resources: more scope and depth in the Teaching and Learning examples, and the creation of a “DI sharing avenue” to facilitate wider collaboration and resource sharing.

In summary, teachers perceived the DI Teaching/Learning Examples as the most valuable in terms of implementing DI followed by the DI Educator packages. In contrast, administrators and board personnel rated the DI DVDs as the most valuable; this was the resource perceived as the least valuable by teachers. Administrators and board personnel were generally more positive about the value of the resources than teachers. Information gained through the case studies indicated that the use of certain resources varied across boards.

7.4 What approaches and/or strategies for planning and professional learning have been the most and least effective in the implementation of DI at the classroom, school and board levels?

In the survey, teachers, administrators and board personnel were asked to indicate which DIPLS activities they have participated in, and how often. A list was provided (see Table 14) and participants indicated their frequency of participation along a 4-point scale from 1= Once to 4= Many times. The percentage of participants who took part in each activity is provided in Table 14, as well as the mean frequency with which they participated. The activities are presented in order of frequency reported by teachers.

No significant differences were observed between the frequency of participation of project compared to non-project boards for any activities save ‘book study’, where non-project boards reported significantly higher rates, albeit with an extremely small effect size suggesting no difference.  

\[ F(1, 1119) = 6.86, \ p < .009; \ \eta^2 = .006 \]
### Table 14 Frequency of participation and average rating of value for Ministry DIPLS activities by participant group

<table>
<thead>
<tr>
<th>DIPLS Activity</th>
<th>Teachers</th>
<th></th>
<th>Administrators</th>
<th></th>
<th>Board Personnel</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>Mean Frequency</td>
<td>Mean Value</td>
<td>%</td>
<td>Mean Frequency</td>
<td>Mean Value</td>
</tr>
<tr>
<td>Planning and teaching with a colleague focusing explicitly on DI</td>
<td>46.21</td>
<td>2.87</td>
<td>4.24</td>
<td>40.45</td>
<td>3.08</td>
<td>4.43</td>
</tr>
<tr>
<td>Mentoring by a DI-knowledgeable colleague</td>
<td>21.08</td>
<td>2.77</td>
<td>4.17</td>
<td>20.64</td>
<td>2.91</td>
<td>4.36</td>
</tr>
<tr>
<td>Working with a DI-knowledgeable learning team facilitator</td>
<td>23.19</td>
<td>2.75</td>
<td>4.05</td>
<td>32.22</td>
<td>3.02</td>
<td>4.33</td>
</tr>
<tr>
<td>Coaching by a DI-knowledgeable coach</td>
<td>14.08</td>
<td>2.66</td>
<td>4.01</td>
<td>18.97</td>
<td>2.93</td>
<td>4.29</td>
</tr>
<tr>
<td>Co-assessing student work</td>
<td>38.89</td>
<td>3.04</td>
<td>3.98</td>
<td>53.56</td>
<td>3.45</td>
<td>4.46</td>
</tr>
<tr>
<td>Learning team/network</td>
<td>62.61</td>
<td>2.91</td>
<td>3.96</td>
<td>70.85</td>
<td>3.14</td>
<td>4.40</td>
</tr>
<tr>
<td>Learning team engaged in collaborative inquiry</td>
<td>38.45</td>
<td>2.91</td>
<td>3.92</td>
<td>68.20</td>
<td>3.37</td>
<td>4.50</td>
</tr>
<tr>
<td>Non-board, or non-ministry, sponsored session</td>
<td>15.65</td>
<td>2.18</td>
<td>3.92</td>
<td>13.11</td>
<td>2.19</td>
<td>3.91</td>
</tr>
<tr>
<td>Workshop series</td>
<td>42.11</td>
<td>2.11</td>
<td>3.88</td>
<td>46.03</td>
<td>2.28</td>
<td>4.11</td>
</tr>
<tr>
<td>DI summer program</td>
<td>9.57</td>
<td>1.62</td>
<td>3.88</td>
<td>6.42</td>
<td>1.54</td>
<td>3.76</td>
</tr>
<tr>
<td>Lesson study</td>
<td>26.53</td>
<td>2.46</td>
<td>3.81</td>
<td>34.03</td>
<td>2.46</td>
<td>4.10</td>
</tr>
<tr>
<td>DI classroom visits</td>
<td>17.98</td>
<td>2.23</td>
<td>3.81</td>
<td>41.42</td>
<td>3.22</td>
<td>4.34</td>
</tr>
<tr>
<td>One time workshop</td>
<td>87.09</td>
<td>2.48</td>
<td>3.64</td>
<td>93.58</td>
<td>2.75</td>
<td>4.00</td>
</tr>
<tr>
<td>Book study</td>
<td>27.28</td>
<td>2.11</td>
<td>3.62</td>
<td>44.07</td>
<td>2.19</td>
<td>3.92</td>
</tr>
<tr>
<td>Online workshop/webinar/Adobe Connect</td>
<td>15.73</td>
<td>1.94</td>
<td>3.33</td>
<td>25.94</td>
<td>2.17</td>
<td>3.48</td>
</tr>
</tbody>
</table>
For those activities that teachers, administrators and board personnel participated in, they also indicated the perceived value of each with respect to how helpful it was in the implementation of DI (1 = Strongly Disagree to 5 = Strongly Agree). The average ratings for each activity are also presented in Table 15. Activities are presented in order of teacher rating of their value.

With respect to project boards, significant differences were found only for the 'one-time workshop' where average value ratings were higher than those for non-project boards. The effect size, however, was too small to be considered practically meaningful.24

As Table 15 illustrates, Planning and teaching with a colleague focusing explicitly on DI was highly valued by all three participant groups. While this finding was generally supported by case study data, it must be noted that it was not always possible in the focus group discussions to discriminate between Ministry and board activities.

### Table 15 Perceived mean value of Ministry DI resources by participant group

<table>
<thead>
<tr>
<th></th>
<th>Teachers</th>
<th>Administrators</th>
<th>Board Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI Teaching/Learning Examples</td>
<td>3.85</td>
<td>4.05</td>
<td>4.15</td>
</tr>
<tr>
<td>DI Educator Packages</td>
<td>3.82</td>
<td>3.96</td>
<td>4.18</td>
</tr>
<tr>
<td>DI Professional Learning Modules</td>
<td>3.77</td>
<td>3.98</td>
<td>4.03</td>
</tr>
<tr>
<td>DI Brochures</td>
<td>3.68</td>
<td>3.87</td>
<td>3.91</td>
</tr>
<tr>
<td>DI DVDs</td>
<td>3.60</td>
<td>4.06</td>
<td>4.18</td>
</tr>
</tbody>
</table>

**Teachers**

Teacher focus group data was consistent with survey data as teachers perceived that planning and teaching with a colleague with a focus on DI was more effective than traditional professional learning sessions and workshops.

*The time that we have spent as teachers working together has tended to be a lot more fruitful than sitting down with the resources themselves and going through them.*

More specifically, teachers believed that opportunities to collaborate with teachers in the same grade and subject area were most beneficial:

*Without question, the best PD time that I’ve ever spent is when I’ve been given release time by administrators to work with other teachers, teaching a subject that we are teaching together – a grade 8 team of English teachers meeting to plan, or Phys. Ed and Health or whatever. That’s invaluable time. That’s where we accomplish so much more because we are learning from each other and each other’s experience. To be able to sit down and plan what we’ve heard. Because it’s true, we’ve been given some very good resources and some great ideas, but it’s putting it into practice in your classroom and creating those units and those lessons for your classes – that’s the time that we need. Together. It’s the collaboration that is huge.*

Teachers’ experiences of school-based learning teams were mixed. Although some reported they had benefitted immensely from their involvement, others were less enthusiastic. When perceived as a Ministry activity some felt pressured to produce DI resources, which were not necessarily aligned with the teachers’ own interests or needs. One teacher explained that she

\[
F(1, 3587) = 6.32, \ p < .01; \ \eta^2 = .002
\]
had spent a great deal of time developing a unit because she felt “forced” to, but that she was unlikely to use the unit again. Conversely, a math teacher in the same focus group stated that the integer unit developed by her team was an excellent resource and that she looked forward to sharing it with her students each semester. Another teacher perceived that the insights and experiences she gained from other teachers in the group were more valuable than any of the resources they produced.

Focus group discussions often centred around what teachers thought they needed in order to effectively implement DI in their classrooms. In addition to collaborating with peers, teachers perceived that “seeing DI in action” either in a demonstration classroom or through job-embedded mentorship would be helpful.

I would love for you (gesturing to experienced DI teacher) to come into my room with my students and say, "this is what we're going to do". And I'm gonna use it because I've seen it in action with my students.

Several perceived that professional learning opportunities for DI should be more teacher directed:

I think that professional development should be put in the hands of individual teachers as opposed to being so structured and top-down. . . there is more emphasis on just getting through it rather than getting something out of it.

Identified areas of need included subject and grade specific professional learning for secondary school teachers and information about how to develop DI lessons that were not technology based.

Administrators and board personnel

Similar to the survey data, case study informants perceived that peer collaboration and job embedded professional learning activities were more valuable than a “one shot workshop”. One Principal of Student Success said,

I think the most effective thing for teachers is sharing sessions where they hear from their own colleagues. It's very easy for somebody from the school board to go into a session and say, 'Why don't you try this?', but we don't live the life. So it's very easy for them to dismiss us, especially if they are kind of skeptical to begin with. But when they get a teacher who says, “I teach math to grade nine applied students and I did this and it worked”, they take that seriously. So the sharing of practices is probably our most effective PD for teachers.

However, several administrators and board personnel believed that the opportunity to learn from experts in the field (i.e., Karen Hume, Carol Ann Tomlinson, Marian Small) had been useful.

Perceived enhancements

When asked what strategies or approaches they thought would enhance the uptake of DI, personnel in three of the case studies recommended an instructional coach model (one key informant asserted, “If I could only afford to put in a DI learning partner in just a handful of the schools, it would be amazing.”). The coaching model was perceived as the “best way to bring in DI” as it would provide consistent mentoring, sharing and classroom based collaboration. An

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25 to share planning and evaluation, to share resources and tools, to reflect and discuss “what worked and what didn’t work”.
elementary school principal in another board suggested that demonstration classrooms would be helpful, as would the pairing of experienced teachers with those who were new to DI, or perhaps felt overwhelmed by it.

Administrators and board personnel also perceived that continued support at all levels (Ministry, superintendents, system principals, departments, school administrators, parents, students) was essential to the implementation of DI. One key informant proposed that in order for DI to get into every classroom and for every student, support needed to be “bottom up and top down”. In some case studies the principal was identified as a “critical driver” to the implementation practice. It was also noted that student and parent support was also essential as DI “can look very different . . . and assessment and evaluation can be perceived as odd or strange.” Board personnel identified the need for additional information in two areas: research evidence relating to DI and student outcomes, and how to best “spread” DI beyond individual classrooms and/or project schools.

In summary, while teachers participated most often in one-time workshops, the activities they valued most were those than involved focused collaboration with colleagues related to DI planning, teaching and mentoring.

Collaborative activities were perceived to be most valuable when opportunities to share with teachers in the same grade and subject area were provided. Administrators and board personnel were generally in agreement on this point although both groups also perceived DI classroom visits as effective. As was the trend throughout the survey, administrators and board personnel viewed the DIPLS activities as more valuable than did the teachers.

Many teachers, administrators and board personnel suggested activities they believed would be more effective than some of the ones they had participated in. Many imagined job-embedded coaching to be a good model. While some teachers had in fact participated in this type of activity, this was limited to only 14% of the sample. Others suggested that grade and subject-specific resources would be beneficial. Continued support at all levels of the education system was also listed as essential to the implementation of DI.
Findings: Concluding Statements

The findings reported here draw primarily from two main data sources: the provincial survey of teachers, administrators and board personnel as well as case studies in 5 of the 6 regions. Combining the two sources has provided a range of evidence used to respond to the 12 evaluation questions in current practice, impact and Ministry effectiveness categories related to the DIPLS.

What is clear in the first instance is that incredible variation exists both within and between classrooms, schools and boards across the province with respect to awareness, understanding and implementation of DI. It is clear that in many classrooms in the province, teachers feel confident implementing DI and have the ongoing support of colleagues and mentors within their school and board. Some boards have created professional learning opportunities that are responsive to the needs of teachers and administrators – i.e., opportunities to reflect, develop new teaching strategies, incorporate strategies into practice, collaborate with peers across grade and subject areas. In others, however, teachers are unsure of the goals and elements of DI and see little evidence of a shared investment in the framework by their colleagues and leadership.

Looking across this range of experiences and settings, several key findings emerge. First, while teachers are certainly aware of DI, many lack a real understanding of what it entails and how it might apply to their specific grade or subject. Many are implementing DI strategies including flexible grouping and choice but may be unsure as the deeper implications and rationale for these. Misconceptions surround DI, such as its incompatibility with senior academic classes, play a role in this confusion. Still others believe that DI is simply ‘good teaching’ and are reluctant to support an initiative and adopt language that they perceive as temporary.

Certainly many teachers are including elements of DI in their practice and are doing so more frequently. In particular, those who feel confident in their ability to implement DI and also believe that student learning and engagement will improve as a result of DI, are doing so with more frequency. Those teachers who have taken part in more DIPLS activities, and who have done so more often, are implementing DI significantly more often than their colleagues. This is an indication that the professional learning that teachers are engaging in is having a positive impact on their practice.

With respect to professional learning, teachers, administrators and board personnel expressed that while most often taking part in one-time workshops, what they valued most was DI-focused collaboration and mentoring with colleagues and DI-knowledgeable leaders. Teachers appreciated the value of resources such as DI Teaching/Learning Examples as assisting them in lesson development. In contrast, however, administrators and board personnel believed that DVDs were the most effective; these areas of contrast serve as potentially fruitful areas of discussion within schools and boards. Participants made several recommendations with respect to improving DI professional learning – most commonly the need for individuals with expertise in DI who could provide ongoing classroom-based support.

Teachers, administrators and board personnel agree that developing DI practice will take time: time to share and plan with colleagues, time to get to know the interests, learning preferences and readiness of their students, time to develop subject- and grade-specific lessons, and time to create assessments that allow students to shine but also reflect knowledge and effort. Some teachers also felt that in implementing DI, they had experienced an increased workload and in fact had less time that they had previously. Certainly the greatest impediment to DI implementation listed most often by all participant groups was time.
Despite the barriers experienced by some teachers, administrators, and board personnel with respect to implementation of DI, many believed that when it was happening, students experience more positive outcomes as a result. Students were perceived as more engaged in their learning, and were seen as performing better academically as well as developing more confidence and self-esteem as learners. Those teachers who took part in DIPLS activities, who held more positive beliefs about DI, and who had more confidence in implementing DI, also perceived more positive impacts of DI on students. Clearly when educators see the positive impact of any strategy or initiative on their students, their continued development and implementation is greatly increased.

Finally, many educators expressed a belief that professional learning in the area of DI needed to continue, albeit in a more subject-specific, collaborative, job-embedded fashion with a focus on secondary teachers in particular.

We have to continue the course with DI. I think it would be a huge mistake if DI was taken off the table or it wasn’t a focus anymore. This takes a while and that goes to the implementation piece, too. In order to get it right, with the restrictions that we have and the structures that we have, we need time to do it over the long course. The resources are great . . . but if the throttle is taken off now, well that would be a huge mistake.

DIPLS Recommendations

In this final section we present conclusions and recommendations emerging from the data and issues for consideration by the Ministry of Education and other educators with a stake in DI and its implementation. The section is structured by three primary conclusions or messages arising from the data. These conclusions centre on observed (i) limits in depth of understanding of DI, (ii) differences between senior elementary and secondary panels and (iii) choices for professional learning (PL) approaches.

We see these recommendations and issues for consideration as fodder for deliberation and ongoing strategic planning by the Ministry and Ontario educators with regard to DIPLS development and implementation. The report concludes with a presentation and discussion of recommendations.

1. Focus on facilitating a deep understanding of DI as a pedagogical framework

As with the implementation of any educational innovation it is essential that educators have a clear and uniform understanding of the program logic and theory. We found a good deal of variation in such understanding among the educators in our sample.

1.1. We recommend that a focus by the Ministry on DI as a pedagogical approach, as opposed to a set of strategies, be emphasized.

Given the considerable variation noted in the findings with respect to awareness and understanding of DI, this is an area where improvement is needed. Most teachers were familiar with the key terms and concepts (e.g., DI, grouping) but expressed a range of definitions and opinions about how DI is connected to an overall framework or pedagogical approach. Many were implementing specific strategies (e.g., choice, grouping), without having a rich understanding of the rationale for these.

1.2. We recommend that misconceptions surrounding DI be explicitly addressed in future professional learning

Many teachers expressed the perspective that DI is intended for students who are struggling and/or for those at the lower end of the academic or ability spectrum. There were also concerns
raised about DI allowing students to avoid areas of difficulty and failing to develop independent work skills.

1.3. **We recommend that in developing and implementing professional learning, attention is paid to clearly outlining the DI framework and that a uniform model of DI is communicated consistently across the province.**

Part of the confusion in this area stemmed from a range of models and definitions of DI presented during professional learning workshops. As well, some boards chose to align the implementation of DI with other initiatives (e.g., Growing Success) making it difficult for teachers to distinguish what comprised DI practice.

1.4. **We recommend that the alignment between DI and classroom assessment and evaluation provide an explicit focus for future professional learning.**

The alignment between differentiated instruction and classroom assessment and evaluation was not always clear for teachers, particularly at the secondary level. To be sure, differentiated assessment is challenging, complex and controversial. Yet it is a fundamental aspect of DI that ought to be explicitly addressed. Many educators were unsure as to how they could assess a range of products with the same criteria. Those differentiating by readiness were also unclear as to how they could evaluate students working towards differentiated instructional objectives in fair and defensible ways. Attention to assessment strategies that are appropriate for a DI classroom context is needed.

2. **Focus on promoting acceptance and implementation of DI at the secondary level**

We noted considerable gaps in understanding, appreciation of, and commitment to DI between Grade 7 & 8 and particularly senior division secondary school educators.

2.1. **We recommend continued professional learning for secondary teachers and school administrators.**

Given the multi-year nature of the DIPLS, those teaching at the most senior grades have certainly had less time than their Grades 7 & 8 counterparts to become familiar with DI and to implement it effectively. Secondary teachers reported holding less positive beliefs about the impact of DI on student outcomes and implementing DI at lower rates compared to their Grade 7 & 8 colleagues.

2.2. **We recommend professional learning that specifically addresses the concerns and beliefs of secondary teachers.**

The perspectives of the secondary teachers, particularly those teaching students in academic classes in Grades 11 & 12 are also important to consider in planning future professional learning. Many of these teachers expressed the understanding that DI was only possible in certain subjects (e.g., Science, Language Arts) and that it was primarily intended for students in open or applied classes rather than academic ones. A perceived mismatch between DI practice and need preparation for post-secondary, especially university undergraduate pedagogical norms was articulated. Also, confusion was expressed by some regarding the implementation of DI within their own specific grade and/or subject. Finally, a number of respondents reported a negative impact that DI had on students in terms of overlooking areas of difficulty and generally lowering standards.

3. **Reconsider professional learning approaches used to promote and foster DI implementation**

Teachers expressed their comparative valuing of PL approaches that far exceed the one-shot workshop approach and thus many of the options offered carried some value for teachers. Yet
we observed some resistance to demonstration-oriented professional learning that did not include opportunities to practice and receive feedback on practice.

3.1. **We recommend professional learning approaches and support that are subject-specific.**

The main message expressed by teachers, administrators and board personnel with respect to effective professional learning was that more subject-specific, classroom-based approaches were needed. Many described the difficulties they encountered in taking more generic information about DI and applying it to their specific setting. This was particularly true for secondary teachers who believed that opportunities to share resources and experiences with teachers of similar grades/subjects were essential.

3.2. **We recommend professional learning approaches that allow for DI-focused professional sharing and mentoring by colleagues and leaders knowledgeable about DI.**

While the largest number of teachers took part in individual workshops, what they valued most was DI-focused collaboration and mentoring with colleagues and DI-knowledgeable leaders. Models of implementation at some boards included a board or school-level position specifically focused on supporting teachers as they implemented DI. Teachers also wanted ongoing feedback as they attempted to develop and implement lessons and assessment approaches that aligned with DI.

3.3. **We recommend professional learning for school leaders that ensures that DI continues to be seen as viable and sustainable professional practice.**

We would conclude with a note that longstanding theory when it comes to the implementation of educational innovation would suggest that effective professional learning embraces the notion that “belief follows practice”; uptake is more likely when implementers have first-hand experience with the innovation and its potential benefits. There is a clear role for educational leaders to marshal against ‘DI fatigue’ and provide, through a mix of pressure and support, the conditions necessary for teachers to experience bonefide DI practice.
References


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Appendix A: DIPLS Logic Model
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Appendix C: Sample letter of invitation to Student Success Leaders for Concept Mapping
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Appendix E: List of Statements by Cluster
Appendix F: Key Variable Chart
Appendix G: Survey
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Appendix J: Student Focus Group Recruitment Flyer
Appendix K: Key Informant Interview Guide
Appendix L: Teacher Focus Group Guide
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Appendix N: Coding Protocols Used for Qualitative Data Analysis
Appendix O: Final Structural Equation Model for Teacher Sample
Appendix A: DIPLS Logic Model
## Appendix B: DIPLS Timeline and Layers of Implementation

<table>
<thead>
<tr>
<th>Year</th>
<th>Provincial Implementation</th>
<th>Layer One</th>
<th>Layer Two</th>
<th>Resources Developed for Layer One and Two</th>
<th>Key Data Collection from Layer One and Two</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2007-08</strong></td>
<td>Grades 7-8</td>
<td>Initial awareness of DI</td>
<td>Grades 7-8 &amp; 8</td>
<td>Grades 7-8 &amp; 8 (Reach Every Student Through Differentiated Instruction Brochure)</td>
<td>DI Board Plan, DI in Action Survey</td>
</tr>
<tr>
<td></td>
<td>DI learning opportunities for educators</td>
<td>1 school site per region; Total: 6 sites</td>
<td>Provision of video footage of classroom practices for DI video available to educators province-wide;</td>
<td>Resource Order Tracking</td>
<td></td>
</tr>
<tr>
<td><strong>2008-09</strong></td>
<td>Grades 7-10</td>
<td>Focus on moving from initial awareness of DI to practice; DI learning opportunities for educators;</td>
<td>Grades 7-10 &amp; 8</td>
<td>Grades 7-8 &amp; 8 Differentiated Instruction Educator’s Package (includes DVD and index cards)</td>
<td>DI Board Plan, DI in Action Survey, Post-sessional surveys (summer writing, regional professional learning sessions)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 sites grades 7 &amp; 8 &amp; 8; 6 sites grades 9 &amp; 10 Total: 12 sites</td>
<td>Implementation of an aspect of DI; Development of a “product” (e.g., lesson plans) to share with province; Provision of video footage of grades 9 &amp; 10 classroom practices for DI video available to educators province-wide;</td>
<td>Resource Order Tracking</td>
<td></td>
</tr>
<tr>
<td><strong>2009-10</strong></td>
<td>Grades 7-10 with foundation work for grades 11-12</td>
<td>Role of DI-knowledgeable facilitator added to board plan for DI job-embedded learning opportunities; Continued focus on moving from initial awareness of DI to practice;</td>
<td>Same configuration as 2008-09 (grades 11 &amp; 12)</td>
<td>Differentiated Instruction Placeholders (bookmarks) &amp; 2010 Differentiated Instruction Educator’s Package</td>
<td>DI Board Plan, DI in Action Survey (Province and Project Sites), Post-sessional surveys (regional professional learning sessions, summer program)</td>
</tr>
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</tbody>
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<thead>
<tr>
<th>Resources Developed for Layer One and Two</th>
<th>Key Data Collection from Layer One and Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 7-8 &amp; 8 (Reach Every Student Through Differentiated Instruction Brochure)</td>
<td>DI Board Plan, DI in Action Survey, Post-sessional surveys (summer writing, regional professional learning sessions)</td>
</tr>
<tr>
<td>Grades 7-8 &amp; 8 Differentiated Instruction Educator’s Package (includes DVD and index cards)</td>
<td>Resource Order Tracking</td>
</tr>
<tr>
<td>Year</td>
<td>Provincial Implementation</td>
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</tbody>
</table>
| 2010-11 | Grades 7-12               | Explicit connection of DI and assessment as supported by Growing Success, 2009; DI learning opportunities for educators; Implementation of DI through collaborative, job-embedded professional learning opportunities | Same configuration with expansion within school, area and/or board (grades 7-12) | Development of DI collaborative inquiry product to share with province; Collection and use of evidence to monitor impact of DI teaching and learning | Continued use of existing DI resources | DI Board Plan  
DI in Action Survey (Province and Project Sites)  
Post-session surveys (summer writing, regional professional learning sessions, summer programs) |
Appendix C: Sample letter of invitation to Student Success Leaders for Concept Mapping

Evaluation of the Ontario Ministry of Education’s Differentiated Instruction Professional Learning Strategy

In February, 2011, the Ontario Ministry of Education awarded a team at the University of Ottawa a contract to evaluate the Differentiated Instruction Professional Learning Strategy (DIPLS). This team is led by Jess Whitley and includes Brad Cousins, Cheryll Duquette, and Catherine Elliott.

As you know, over the past few years there have been a number of professional development activities within the DIPLS aimed at improving teachers’ awareness of and ability to use differentiated instruction strategies in their classrooms. We have been asked to determine how effective these activities have been and what, if any impact they have had on classroom practice. In particular, we would like to explore the perceptions of teachers and administrators regarding the impact of the DIPLS. The Ministry will then use this information to inform and improve future professional learning strategies.

The U of O evaluation consists of two strands: Concept Mapping and Case Studies. We have obtained ethical approval from the University of Ottawa. We are currently seeking ethical approval from your board for the first strand:

**Concept mapping with teachers & administrators - Spring, 2011**

- 45 participants from DIPLS project boards across Ontario (5-8 per board)
- Particular recruitment of DI-knowledgeable personnel
- Focus on perceptions of DIPLS Impact
- A 3 phase virtual (online) activity; 2-3 hours total
- Funding for teacher release time is provided

If you have any questions or concerns, or would like further information on the evaluation, please contact us!

Thank you for your assistance with this important project.

Jess Whitley, Principal Investigator  
Catherine Elliott, Research Associate  
dipls@uottawa.ca  
(613) 562-5800 x.4963
Appendix D: Concept Mapping Recruitment Flyer

LET YOUR VOICE BE HEARD!

PARTICIPATE IN THE DIPLS EVALUATION

Click here to get started!

In collaboration with the Ministry and school boards across the province, we are beginning an evaluation of the DIPLS.

In order to make sure that we are asking the right questions, we first want to find out what a small, informed group of teachers, administrators and board-level personnel think about the effect, if any, that DIPLS is having on learning, teaching, leading and managing.

We are using a concept mapping activity to help us with this. The activity involves 3 steps and takes place entirely on-line, at times convenient to participants. Participants can complete the steps individually or in small groups at a computer; all participation is anonymous. Funding is available for teacher release time and the activity will be completed in May, 2011. The 3 steps are listed below.

1. Brainstorming (~ 20 min)
   - Generate ideas and observations regarding the effect that DIPLS has had on learning, teaching and/or leading and managing

2. Sorting & Rating (~ 30 min)
   - Organizing ideas into groupings and rating their importance; these will be compiled across the province and a concept map will be generated

3. Interpretation (~ 40 min)
   - Chatting virtually with participants at boards across the province to interpret the completed concept map

Creating a concept map early in the evaluation is crucial to making sure that information we gather for this evaluation is relevant and informed by those engaged in DI and the DIPLS in the field. This information can then be used by school boards and the Ministry as input for future professional development and DI initiatives.

We need the voices of educators, administrators and board-level personnel to make this happen!

All participant e-mail addresses will be entered into multiple draws for various gift certificates and an Apple iPod!

CONTACT US IF YOU HAVE ANY QUESTIONS:
DIPLS@uottawa.ca
1-877-868-8292 EXT. 4963 (DR. JESS WHITLEY)
Appendix E: List of Statements by Cluster

<table>
<thead>
<tr>
<th>Cluster 1: Using Assessment to facilitate student learning</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>53 better meeting the needs of students through assessment FOR learning</td>
<td>4.04</td>
</tr>
<tr>
<td>1 helping teachers determine students’ readiness through diagnostic assessment</td>
<td>4.00</td>
</tr>
<tr>
<td>52 increasing student success by giving them regular feedback</td>
<td>3.75</td>
</tr>
<tr>
<td>55 providing focus on assessment AS learning</td>
<td>3.46</td>
</tr>
<tr>
<td>39 Reducing behavioural issues in the classroom</td>
<td>3.07</td>
</tr>
<tr>
<td>3 lessening discipline issues for administrators by reducing frustration of teachers and students</td>
<td>2.96</td>
</tr>
<tr>
<td>41 using student data to plan instruction (FROM 4)</td>
<td>4.07</td>
</tr>
<tr>
<td>60 encouraging teachers to plan instruction by starting where the students are (FROM 4)</td>
<td>3.96</td>
</tr>
<tr>
<td><strong>Average rating:</strong></td>
<td><strong>3.88</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Cluster 2: Concerns regarding DIPLS</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>15 creating unnecessary professional jargon</td>
<td>2.43</td>
</tr>
<tr>
<td>14 creating the temptation to use DI strategies as one-off teaching gimmicks rather than understanding the underlying principle</td>
<td>2.21</td>
</tr>
<tr>
<td>59 adding one more thing that we need to do for the Ministry</td>
<td>2.21</td>
</tr>
<tr>
<td><strong>Average rating:</strong></td>
<td><strong>2.29</strong></td>
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<table>
<thead>
<tr>
<th>Cluster 3: Engaging students through personalized learning opportunities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20 giving students more choices in their learning</td>
<td>4.36</td>
</tr>
<tr>
<td>4 allowing students to demonstrate their learning in different ways</td>
<td>4.29</td>
</tr>
<tr>
<td>51 allowing students to showcase their strengths by offering them a choice of product</td>
<td>4.25</td>
</tr>
<tr>
<td>18 helping students succeed by teaching to their strengths</td>
<td>4.21</td>
</tr>
<tr>
<td>6 allowing students to provide answers using a variety of methods</td>
<td>4.18</td>
</tr>
<tr>
<td>2 giving students more opportunity to explore their learning styles</td>
<td>4.14</td>
</tr>
<tr>
<td>21 encouraging students to recognize their personal strengths</td>
<td>4.07</td>
</tr>
<tr>
<td>56 providing differentiated activities to allow students access to learning</td>
<td>4.07</td>
</tr>
<tr>
<td>38 increasing student participation by allowing them to work individually, in pairs and in groups.</td>
<td>3.82</td>
</tr>
<tr>
<td>48 involving students in their own learning</td>
<td>3.79</td>
</tr>
<tr>
<td>37 stimulating a lot more student discussion through the use of small groups</td>
<td>3.75</td>
</tr>
<tr>
<td>40 increasing student engagement by allowing various entry points to learning</td>
<td>3.64</td>
</tr>
<tr>
<td>47 empowering students through their learning</td>
<td>3.46</td>
</tr>
<tr>
<td>46 ensuring students take more responsibility for their learning</td>
<td>3.29</td>
</tr>
<tr>
<td>39 reducing behavioural issues in the classroom (FROM 1)</td>
<td>3.07</td>
</tr>
<tr>
<td>3 lessening discipline issues for administrators by reducing frustration of teachers and students (FROM 1)</td>
<td>2.96</td>
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<tr>
<td>34 allowing the use of technology to be explored in the classroom (FROM 4)</td>
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<tr>
<td><strong>Average rating:</strong></td>
<td><strong>3.82</strong></td>
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### Evaluation of the DIPLS

#### Cluster 4: Supporting teachers through professional learning opportunities

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Rating</th>
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</thead>
<tbody>
<tr>
<td>25</td>
<td>allowing teachers to share successful practices</td>
<td>4.32</td>
</tr>
<tr>
<td>45</td>
<td>bringing teachers together to collaborate and share best practice</td>
<td>4.32</td>
</tr>
<tr>
<td>8</td>
<td>allowing for better communication of ideas between teachers</td>
<td>4.18</td>
</tr>
<tr>
<td>31</td>
<td>giving teachers the opportunity to co-plan D.I. activities.</td>
<td>4.18</td>
</tr>
<tr>
<td>28</td>
<td>allowing teachers to work in collaborative PD sessions</td>
<td>4.14</td>
</tr>
<tr>
<td>57</td>
<td>providing release time for professional development</td>
<td>4.07</td>
</tr>
<tr>
<td>50</td>
<td>focusing professional learning efforts on classroom instruction</td>
<td>4.04</td>
</tr>
<tr>
<td>58</td>
<td>providing a context for co-planning</td>
<td>4.00</td>
</tr>
<tr>
<td>35</td>
<td>allowing job-embedded professional development opportunities</td>
<td>3.82</td>
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<tr>
<td>11</td>
<td>encouraging team teaching</td>
<td>3.79</td>
</tr>
<tr>
<td>5</td>
<td>facilitating communication among teachers from different levels (elementary and secondary)</td>
<td>3.75</td>
</tr>
<tr>
<td>10</td>
<td>providing leadership opportunities to teachers</td>
<td>3.61</td>
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<tr>
<td>32</td>
<td>providing access to experts in the field of DI</td>
<td>3.50</td>
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<tr>
<td>33</td>
<td>providing teacher the opportunity for peer observation</td>
<td>3.29</td>
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<tr>
<td>7</td>
<td>allowing for one-on-one work with a &quot;DI Coach&quot;</td>
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**Average rating:** 3.85

#### Cluster 5: Instructional leadership

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<tr>
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<tbody>
<tr>
<td>44</td>
<td>helping administrators build capacity of DI knowledgeable staff in their school</td>
<td>3.29</td>
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<tr>
<td>23</td>
<td>encouraging administrators to examine ways in which they can spread the &quot;DI bug&quot; to more staff members</td>
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**Average rating:** 3.85

#### Cluster 6: Engaging teachers in enhancing classroom practice

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<tbody>
<tr>
<td>17</td>
<td>making teachers more conscious about the strategies they employ</td>
<td>4.18</td>
</tr>
<tr>
<td>24</td>
<td>allowing teachers to teach in a way that will engage more students</td>
<td>4.14</td>
</tr>
<tr>
<td>29</td>
<td>encouraging teachers to focus on BIG ideas</td>
<td>3.75</td>
</tr>
<tr>
<td>22</td>
<td>encouraging more analytical teaching methods.</td>
<td>3.68</td>
</tr>
<tr>
<td>43</td>
<td>focus on current practice and how many students you reach with it</td>
<td>3.54</td>
</tr>
<tr>
<td>36</td>
<td>increasing teacher enjoyment a whole lot more!</td>
<td>3.50</td>
</tr>
<tr>
<td>9</td>
<td>reminding teachers that they teach young people, not the curriculum</td>
<td>3.46</td>
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<tr>
<td>12</td>
<td>revitalizing teachers who are in a rut</td>
<td>3.11</td>
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<tr>
<td>19</td>
<td>building recognition that students learn differently (FROM 4)</td>
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<td>13</td>
<td>reinforcing that strategies for the weakest students will benefit the whole class (FROM 4)</td>
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**Average rating:** 3.74

#### Cluster 7: Professional growth through reflective practice

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<tr>
<td>54</td>
<td>encouraging teachers to incorporate new teaching strategies into their practice</td>
<td>4.21</td>
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<tr>
<td>30</td>
<td>providing opportunities for professional growth</td>
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</tr>
<tr>
<td>49</td>
<td>enabling teachers to be reflective practitioners</td>
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<td>allowing teachers to reflect during the professional learning cycle</td>
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<td>26</td>
<td>exposing teachers to new strategies that may be derived from other disciplines</td>
<td>3.89</td>
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<tr>
<td>42</td>
<td>helping teachers overcome fear of trying something new or different</td>
<td>3.64</td>
</tr>
<tr>
<td>16</td>
<td>reminding veteran teachers about concepts they already know</td>
<td>3.32</td>
</tr>
</tbody>
</table>

**Average rating:** 3.91
### Appendix F: Key Variable Chart

<table>
<thead>
<tr>
<th>Category</th>
<th>Key Variables</th>
<th>Evaluation Questions</th>
<th>DI in Action Survey</th>
<th>Concept Mapping - perceived impact of DIPLS</th>
<th>Outcome variables from logic model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background/ Demographics</strong></td>
<td>Location Assignment, Work/ Teaching experience</td>
<td>School Board, Current Role, Years of experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participation in DIPLS (this is under participants learning)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Guskey's Levels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1) Participants’ reactions to DIPLS</strong></td>
<td>Teachers’ views of specific elements of DIPLS</td>
<td>1-4. What factors enhance or impede the implementation of DI?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Use of resources</td>
<td>3-3. What resources provided by the Ministry have been the most and least effective in the implementation of differentiated instruction at the classroom, school and board levels?</td>
<td>What I find most helpful when implementing DI / what I find most challenging when implementing DI (includes resources, learning opportunities and org. support )</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Use of a professional learning cycle for DI (required for Layer 2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Participants’ learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>--------------------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Job-embedded professional learning opportunities</td>
<td>o Support from DI-knowledgeable facilitator</td>
<td>Opportunities to work with a DI-knowledgeable learning team facilitator</td>
<td>Many educators experience collaborative job-embedded professional learning opportunities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2) Participants’ learning</th>
<th>3) Organizational support &amp; change</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher awareness &amp; understanding of DI –</td>
<td>1-3. To what degree is there an awareness and understanding of differentiated instruction at the classroom, school and board levels?</td>
<td>3-2. To what extent is implementation of differentiated instruction mediated by school- and board-level context variables?</td>
<td>C4: Supporting teachers through professional learning opportunities</td>
</tr>
<tr>
<td>Intensity of participation – rating of the effectiveness of experiences</td>
<td>3-4. What approaches and/or strategies for planning and professional learning have been the most and least effective in the implementation of differentiated instruction at the classroom, school and board levels?</td>
<td></td>
<td>Ministry provides feedback to boards on their implementation of DI</td>
</tr>
</tbody>
</table>

2) Participants’ learning

- Teacher awareness & understanding of DI –
  - 1-3. To what degree is there an awareness and understanding of differentiated instruction at the classroom, school and board levels?
- Intensity of participation – rating of the effectiveness of experiences
  - 3-4. What approaches and/or strategies for planning and professional learning have been the most and least effective in the implementation of differentiated instruction at the classroom, school and board levels?

3) Organizational support & change

- Organizational policies (in relation to DI practices);
  - 3-2. To what extent is implementation of differentiated instruction mediated by school- and board-level context variables?
<table>
<thead>
<tr>
<th>Colleagial support (within the school);</th>
<th>Opportunities to dialogue with colleagues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of time (to develop DI practices);</td>
<td>Opportunities to work with a DI-knowledgeable learning team facilitator</td>
</tr>
<tr>
<td>Resources (availability in terms of in-person assistance and fiscal resources);</td>
<td>What I find most helpful when implementing DI / what I find most challenging when implementing DI (includes resources, learning opportunities and org. support )</td>
</tr>
<tr>
<td>Protection from intrusions/allocation of time (minimization of competing demands on those working on DI interventions);</td>
<td></td>
</tr>
<tr>
<td>Openness to experimentation (organizational cultural of the school; posture toward innovation);</td>
<td></td>
</tr>
<tr>
<td>Supervisory leadership and support (facilitative support to engage staff in DI development);</td>
<td>C5: Instructional leadership</td>
</tr>
<tr>
<td>High-level administrators’ leadership and support (overt board level organizational support for DI); and</td>
<td>Boards use funding &amp; resources to promote DI to more educators and support the early adopters to continue to build capacity in their implementation of DI</td>
</tr>
<tr>
<td>Recognition of success (incentives for engaging in DI practice development).</td>
<td>Ministry provides feedback to boards on their implementation of DI</td>
</tr>
</tbody>
</table>
### Evaluation of the DIPLS

#### 4) Participants’ use of new knowledge & skills

<table>
<thead>
<tr>
<th>Degree and quality of implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1. What does the practice of differentiated instruction look like in Ontario classrooms Grades 7-12?</td>
</tr>
<tr>
<td>1-2. To what extent are teachers (7-8, 9-10, 11-12) practicing differentiated instruction?</td>
</tr>
<tr>
<td>2-3. To what degree has the DIPLS had an impact on teaching and learning practices and culture at the classroom, school and board levels?</td>
</tr>
<tr>
<td>2-1. What impact has the DIPLS had on instructional practice?</td>
</tr>
</tbody>
</table>

| Self assessment of Position on the DI continuum |
| Modification of practice |
| Use of DI structures (#5, 6, 7) |
| C 1: Using assessment to facilitate student learning |
| C:6 Engaging teachers in enhancing classroom practice. |
| C7: Professional growth through reflective practice |
| Many educators implement DI |
| Many educators implement DI through a collaborative inquiry process that focuses on student learning needs |

#### 5) Student learning outcomes

| Teacher perception of the impact of DIPLS on student engagement & achievement |
| 2-2. What impact has the DIPLS had on student engagement, performance and achievement outcomes? |

| Evidence of meeting student needs (student outcomes and engagement) |
| C3: Engaging Students through personalized learning opportunities |
| Learning needs of most students are met |
| Improved outcomes for grade 7-12 students; increased achievement & reduced gaps in student achievement |

#### Other

| 2-4. What unintended outcomes were observed? |
| C2: Concerns regarding DIPLS |

---
Appendix G: Survey
Evaluation of the DIPLS

DI in Action Survey

Introduction

Welcome to the 2011 version of the DI in Action Survey!

This survey explores your perceptions and observations regarding differentiated instruction and the Differentiated Instruction Professional Learning Strategy. The Strategy includes professional development opportunities and resources that were created by the Ontario Ministry of Education. These include DI workshops, DI mentoring/coaching, online webinars, DI summer program, DI brochures, teaching/learning examples (TLXs), etc.

Even if you did not take part in DIPLS activities, we would still appreciate your thoughts about DI in general.

Your participation and the information you provide is completely anonymous.

It will take approximately 10-15 minutes to complete the survey and it must be completed in one sitting - it is not possible to save your work and continue at a later time.

Thank you for your participation!

Background Information

Q1 - The school board I work for is:

Q2 - My current role is:

- Teacher
- School Administrator
- Board Personnel

Role

Q3 - Since 2007, my role has mostly been:

- Teacher
- School Administrator
- Board Personnel
**DI in Action Survey**

<table>
<thead>
<tr>
<th>Q4 (1-10) - My current teaching assignment includes (check all that apply):</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Grade 7</td>
</tr>
<tr>
<td>☐ Grade 8</td>
</tr>
<tr>
<td>☐ Grade 9</td>
</tr>
<tr>
<td>☐ Grade 10</td>
</tr>
<tr>
<td>☐ Grade 11</td>
</tr>
<tr>
<td>☐ Other (please specify)</td>
</tr>
<tr>
<td>☐ Grade 12</td>
</tr>
<tr>
<td>☐ Special Education, ELL, Guidance</td>
</tr>
<tr>
<td>☐ Student Success Teacher</td>
</tr>
<tr>
<td>☐ Librarian</td>
</tr>
<tr>
<td>☐ Department Head</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q5 (1-3) - Since 2007, I have mostly taught (check all that apply):</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Grade 7 or 8</td>
</tr>
<tr>
<td>☐ Grade 9 or 10</td>
</tr>
<tr>
<td>☐ Grade 11 or 12</td>
</tr>
</tbody>
</table>

**Subjects Taught**

<table>
<thead>
<tr>
<th>Q6 (1-15) Since 2007, the elementary subjects I have taught most often are (check all that apply):</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ I have not taught elementary subjects since 2007</td>
</tr>
<tr>
<td>☐ Language</td>
</tr>
<tr>
<td>☐ Mathematics</td>
</tr>
<tr>
<td>☐ Science and Technology</td>
</tr>
<tr>
<td>☐ History</td>
</tr>
<tr>
<td>☐ Geography</td>
</tr>
<tr>
<td>☐ Drama/Dance</td>
</tr>
<tr>
<td>☐ Visual Arts</td>
</tr>
<tr>
<td>☐ Music</td>
</tr>
<tr>
<td>☐ Health and Physical Education</td>
</tr>
<tr>
<td>☐ French</td>
</tr>
<tr>
<td>☐ Native Languages</td>
</tr>
<tr>
<td>☐ Special Education</td>
</tr>
<tr>
<td>☐ Library</td>
</tr>
<tr>
<td>☐ Other (please specify)</td>
</tr>
</tbody>
</table>

---

Page 2
### DI in Action Survey

**Q7** (1-22) - Since 2007, the *secondary* subjects I have taught most often are (check all that apply):

- [ ] I have not taught secondary subjects since 2007
- [ ] The Arts
- [ ] Business Studies
- [ ] Canadian and World Studies
- [ ] Classical and International Languages
- [ ] Computer Studies
- [ ] English
- [ ] English As a Second Language and English Literacy Development
- [ ] French As a Second Language
- [ ] Guidance and Career Education

Other (please specify):

- [ ] Health and Physical Education
- [ ] Interdisciplinary Studies
- [ ] Library
- [ ] Mathematics
- [ ] Native Languages
- [ ] Native Studies
- [ ] Science
- [ ] Social Sciences and Humanities
- [ ] Special Education
- [ ] Technological Education

### Experience

**Q8** - The number of years of classroom teaching experience I have is:

- [ ]

**Q9** - Since 2007, I have taught:

- [ ] Only in my current school
- [ ] In 2 different schools
- [ ] In 3 different schools
- [ ] In 4 different schools or more

### Organizational Support
## DI in Action Survey

### Q10 (1-7) - In the Ontario school where I have worked the longest over the past 4 years, I have experienced the following (please answer all):

<table>
<thead>
<tr>
<th>Sufficient classroom resources (e.g. levelled texts, manipulatives, technologies)</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional learning resources (e.g. books, websites)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encouragement from school administration to try new practices or strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consideration of staff perspectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognition of teachers’ efforts to improve student success</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time for collaborative inquiry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time to learn about new practices or strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Q11 (1-5) - In the Ontario board where I have taught the longest over the past 4 years, I have experienced the following (please answer all):

<table>
<thead>
<tr>
<th>Sufficient classroom or school resources</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support from board administration to try new teaching practices or strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encouragement by board administration to participate in professional learning opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board-level recognition of teachers' efforts to improve student success</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advocacy and support for collaborative inquiry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Participation in DI Activities

### Q12 - I have taken part in differentiated instruction professional learning activities (e.g. DI workshop, DI mentoring/coaching, learning team)

- **Yes**
- **No**

If Yes: To Q13 (DIPLS Experience)
If No: To Q16 (Use of DI Resources)
**DI in Action Survey**

Q13 - The length of time I have been involved in differentiated instruction professional learning activities (e.g. DI workshop, DI mentoring, learning team) is:

- [ ] Less than 1 year
- [ ] 1 year
- [ ] 2 years
- [ ] 3 years
- [ ] 4 years or more

**FOR DIPLS PARTICIPATION = YES ONLY**

---

**DI Activities**

---
### Q14 - Consider the following differentiated instruction (DI) professional learning activities you participated in (please answer any/all that apply):

<table>
<thead>
<tr>
<th>FOR DIPLS PARTICIPATION = YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have participated in this:</td>
</tr>
<tr>
<td>Once, Twice, A few times, Many times</td>
</tr>
</tbody>
</table>

**This was valuable in helping me implement DI:**
- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

- One time workshop
- Workshop series
- Book study
- Lesson study
- Learning team/network (e.g. grade team, subject team/association, whole staff)
- Online workshop/Webinar/Adobe Connect
- Planning and teaching with a colleague focusing explicitly on DI
- Non-board, or non-ministry, sponsored session (e.g. Federation or Faculty of Education course)
- DI summer program
- DI classroom visits
- Mentoring by a DI-knowledgeable colleague
- Working with a DI-knowledgeable learning team facilitator
- Coaching by a DI-knowledgeable coach
- Co-assessing student work (e.g. moderated marking)
- Learning team engaged in collaborative inquiry (e.g. the Professional Learning Cycle, the Teaching and Learning Critical Pathway, action research)
- Other (please specify below)

**Other**

---

### Q15 - As a result of my participation in DI professional learning opportunities I have a better understanding of how to implement DI in my classroom

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

**FOR DIPLS PARTICIPATION = YES ONLY**
## DI in Action Survey

### DI Resources

**Q16 & 27 - I have used a Ministry DI Resource (e.g. DI Brochure, DI Teaching/ Learning Examples)**

- [ ] Yes
- [ ] No

**FOR ALL TEACHERS**

**IF YES = Q17**

**IF NO = Q18**

### DI Resources

**Q17 & 28 (1-6) - Please consider the Ministry DI resources that you have used (please answer any/all that apply):**

- [ ] DI Brochures
- [ ] DI Educator Packages (e.g. Scrapbook, Guides, Cards)
- [ ] DI DVDs
- [ ] DI Teaching/Learning Examples (TLXs)
- [ ] DI Professional Learning Modules (e.g. PowerPoint presentations and handouts)
- [ ] Other (please specify below)

**FOR DI RESOURCES = YES ONLY**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Frequency (Occasionally, Twice, A few times, Many times)</th>
<th>Agreement (Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI Brochures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI Educator Packages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI DVDs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI Teaching/Learning Examples (TLXs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI Professional Learning Modules</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Other                                    |                                                        |                                                                                     |

**Beliefs**

**Q18 & 29 - I believe that by implementing DI, **student learning** can be significantly improved**

- [ ] Strongly Agree
- [ ] Agree
- [ ] Neither Agree nor Disagree
- [ ] Disagree
- [ ] Strongly Disagree

**FOR ALL TEACHERS**
**DI in Action Survey**

**Q19 & 30 - I believe that by implementing DI, student engagement can be significantly improved**

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

**DI Continuum**

**Q20 & 31 - As a result of the professional learning and experience I have had with DI, I would place myself on the DI Continuum at this time at... (see below chart for reference)**

- Developing Instructional Routines and Skills (little differentiation)
- Expanding Instructional Routine and Skills (little differentiation)
- Developing the Routines, Habits, and Skills for Differentiated Instruction (some differentiation)
- Sustaining a Differentiated Instruction Culture in the Classroom (much differentiation)

<table>
<thead>
<tr>
<th>Developing Instructional Routines and Skills</th>
<th>Expanding Instructional Routines and Skills</th>
<th>Developing the Routines, Habits and Skills for Differentiated Instruction</th>
<th>Sustaining a Differentiated Instruction Culture in the Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>I design instruction, assessment, evaluation and the learning environment for the class as a whole based on curriculum expectations and my own strengths and preferences.</td>
<td>I design instruction, assessment, evaluation and the learning environment based on curriculum expectations and a general sense of the learning needs of the class.</td>
<td>I design instruction, assessment, evaluation and the learning environment based on curriculum expectations and a general sense of the learning needs of the class. I try to design a variety of options for my students.</td>
<td>I design instruction, assessment, evaluation and the learning environment based on curriculum expectations and on the specific learning needs of students in the class. I try to ensure that the learning experiences I provide are a ‘good fit’ for each of my students.</td>
</tr>
<tr>
<td>In my practice, all students learn and demonstrate their learning in the same way all or most of the time.</td>
<td>In my practice, students experience, over time, a variety of ways to learn and/or ways to demonstrate their learning.</td>
<td>In my practice, students have a choice of ways to learn and/or ways to demonstrate their learning on an ongoing basis.</td>
<td>In my practice, students are routinely provided with, or choose when appropriate, ways to learn and/or ways to demonstrate their learning that are designed for their particular learning needs.</td>
</tr>
</tbody>
</table>

**Use of New Knowledge and Skills**

Same for All Students

Different options for different students

(LITTLE DIFFERENTIATION) — (MUCH DIFFERENTIATION)
## DI in Action Survey

**Q21 & 32 (1-8) - In my current practice, I (please answer all):**

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine my students’ level of readiness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine my students’ interests</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine my students’ learning preferences</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide assignments/tasks to meet varying levels of readiness (e.g., amount of support and complexity)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide assignments/tasks based on different student interests</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide assignments/tasks based on different learning preferences</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Provide choices for students to demonstrate learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create flexible groups based on student characteristics and needs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Q22 - Overall, I adjust/adapt my practice according to my new DI knowledge and professional learning experiences:**

- To a great extent
- Quite a bit
- To some extent
- Very little
- Not at all

**FOR DIPLS PARTICIPATION = YES ONLY**

## DI Support

**Q23 & 33 - I feel confident in my ability to differentiate instruction according to the needs of my students**

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

**FOR ALL TEACHERS**

## Student Outcomes
**Evaluation of the DIPLS**

### DI in Action Survey

**Q24 (1-11) - As a result of implementing DI in the classroom, I have observed the following among my students (please answer any/all that apply):**

<table>
<thead>
<tr>
<th>Impact</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased engagement/motivation/commitment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased success/achievement/quality of work</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Increased respect for diverse ways of learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Increased understanding/knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased confidence/self-esteem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved ability to make choices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fewer classroom management issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased skill at self-assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More assignments handed in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify below)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Other:

<table>
<thead>
<tr>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

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### DIPLS Outcomes

**Q25 (1-6) The Differentiated Instruction Professional Learning Strategy has affected students, teachers, and/or administrators by (please answer all):**

<table>
<thead>
<tr>
<th>Impact</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engaging students through personalized learning opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting teachers through professional learning opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promoting instructional leadership</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Engaging teachers in enhancing classroom practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitating professional growth through reflective practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using assessment to facilitate student learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Q26 - What unexpected outcomes (positive or negative) have you observed as a result of the focus on DI professional learning?**

**FOR DIPLS PARTICIPATION = YES**

---
# Evaluation of the DIPLS

## DI in Action Survey

### Introduction

Welcome to the 2011 version of the DI in Action Survey!

This survey explores your perceptions and observations regarding differentiated instruction and the Differentiated Instruction Professional Learning Strategy. The Strategy includes professional development opportunities and resources that were created by the Ontario Ministry of Education. These include DI workshops, DI mentoring/teaching, online webinars, DI summer program, DI brochures, teaching/learning examples (TLXs), etc.

Even if you did not take part in DIPLS activities, we would still appreciate your thoughts about DI in general.

Your participation and the information you provide is completely anonymous.

It will take approximately 10-15 minutes to complete the survey and it must be completed in one sitting - it is not possible to save your work and continue at a later time.

Thank you for your participation!

### Background Information

**Q1 - The school board I work for is:**

---

**Q2 - My current role is:**

- [ ] Teacher
- [ ] School Administrator
- [ ] Board Personnel

### Role

**Q35 - Since 2007, my role has mostly been:**

- [ ] Teacher
- [ ] School Administrator
- [ ] Board Personnel
Evaluation of the DIPLS

DI in Action Survey

Q36 (1 & 2) - I am currently a(an)...(check any/all that apply):
- Elementary Administrator
- Secondary Administrator

Q37 - The number of years of school administration experience I have is:

Q38 - Since 2007, I have worked:
- Only in my current school
- In 2 different schools
- In 3 different schools
- In 4 different schools or more

Organizational Support

Q39 (1-7) - In the Ontario school where I have worked as an administrator the longest over the years, teachers experienced the following (please answer all):

<table>
<thead>
<tr>
<th>Sufficient classroom resources (e.g. leveled texts, manipulatives, technologies)</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional learning resources (e.g. books, websites)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Encouragement from school administration to try new practices or strategies</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Consideration of staff perspectives</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Recognition of teacher’s efforts to improve student success</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Time for collaborative inquiry</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Time to learn about new practices or strategies</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
DI in Action Survey

Q40 (1-5) - In the Ontario board where I have worked as an administrator the longest over the years, I have experienced the following (please answer all):

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sufficient classroom or school resources</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Support from board administration to try new teaching practices or strategies</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Encouragement by board administration to participate in professional learning opportunities</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Board-level recognition of school administrators’ efforts to improve student success</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Advocacy and support for collaborative inquiry</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Participation in DI Activities

Q41 - I have taken part in differentiated instruction professional learning activities (e.g. DI workshop, DI mentoring/coaching, learning team)

☐ Yes
☐ No

IF YES: To Q42 (DIPLS Experience)
IF NO: To Q45 (Use of DI Resources)

DI Activities

Q42 - The length of time I have been involved in differentiated instruction professional learning activities (e.g. DI workshop, DI mentoring, learning team) is:

☐ Less than 1 year
☐ 1 year
☐ 2 years
☐ 3 years
☐ 4 years or more

FOR DIPLS PARTICIPATION = YES ONLY

Page 3
### DI in Action Survey

**Q43 (1-16) - Consider the following differentiated instruction (DI) professional learning activities participated in (please answer any/all that apply):**

<table>
<thead>
<tr>
<th>FOR DIPLS PARTICIPATION = YES ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] One time workshop</td>
</tr>
<tr>
<td>[ ] Workshop series</td>
</tr>
<tr>
<td>[ ] Book study</td>
</tr>
<tr>
<td>[ ] Lesson study</td>
</tr>
<tr>
<td>[ ] Learning team/network (e.g. grade team, subject team/association, whole staff)</td>
</tr>
<tr>
<td>[ ] Online workshop/Webinar/Adobe Connect</td>
</tr>
<tr>
<td>[ ] Planning and teaching with a colleague focusing explicitly on DI</td>
</tr>
<tr>
<td>[ ] Non-board, or non-ministry, sponsored session (e.g. Federation or Faculty of Education course)</td>
</tr>
<tr>
<td>[ ] DI summer program</td>
</tr>
<tr>
<td>[ ] DI classroom visits</td>
</tr>
<tr>
<td>[ ] Mentoring by a DI-knowledgeable colleague</td>
</tr>
<tr>
<td>[ ] Working with a DI-knowledgeable learning team facilitator</td>
</tr>
<tr>
<td>[ ] Coaching by a DI-knowledgeable coach</td>
</tr>
<tr>
<td>[ ] Co-assessing student work (e.g. moderated marking)</td>
</tr>
<tr>
<td>[ ] Learning team engaged in collaborative inquiry (e.g. the Professional Learning Cycle, the Teaching and Learning Critical Pathway, action research)</td>
</tr>
<tr>
<td>[ ] Other (please specify below)</td>
</tr>
</tbody>
</table>

**DI Activities**
DI in Action Survey

Q44 - As a result of my participation in DI professional learning opportunities I have a better understanding of how to support teachers in my school as they implement DI in their classrooms

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

FOR DIPLS PARTICIPATION = YES ONLY

DI Resources

Q45 & 56 - I have used a Ministry DI Resource (e.g. DI Brochure, PowerPoint, DI Teaching/Learning Examples)

- Yes
- No

FOR ALL ADMIN

IF YES = Q46
IF NO = Q47

DI Resources

Q46 & 57 (1-6) - Please consider the Ministry DI resources that you have used (please answer any/all that apply):

FOR DI RESOURCES = YES ONLY

I have used this resource:

This resource was useful in supporting teachers as they implemented DI in their classrooms:

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

DI Brochures

DI Educator Packages (e.g. Scrapbook, Education Guides, Cards)

DI DVDs & Facilitator Guides

DI Teaching/Learning Examples (TLxs)

DI Professional Learning Modules (e.g. Ministry PowerPoint presentations and handouts)

Other (please specify below)

Beliefs

Page 5
### DI in Action Survey

**Q47 & 59 - I believe that by implementing DI, student learning can be significantly improved**

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

**Q48 & 60 - I believe that by implementing DI, student engagement can be significantly improved**

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

### DI Support

**Q49 & 63 (1-4) - As an administrator I support the implementation of DI by (please answer all):**

<table>
<thead>
<tr>
<th>Providing opportunities for the staff to learn about DI</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing opportunities for learning teams to share and reflect on their practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increasing my knowledge of DI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participating as a co-learner with my staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Q50 & 58 - I feel confident in my ability to support teachers as they implement differentiated instruction in their classrooms**

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

### Use of New Knowledge and Skills
### DI in Action Survey

**Q51 & 61 (1-8) - Currently, my administrative team is providing support for teachers as they (please answer all):**

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine students’ level of readiness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine students’ interests</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine students’ learning preferences</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Provide assignments/tasks to meet varying levels of readiness (e.g., amount of support and complexity)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide assignments/tasks based on different student interests</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide assignments/tasks based on different learning preferences</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Provide choices for students to demonstrate learning</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Create flexible groups based on student characteristics and needs</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### Organizational Support

**Q52 & 62 - In the Ontario board where I have worked as an administrator the longest over the years, I have been given opportunities to continue to learn about DI**

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

### Student Outcomes
### DI in Action Survey

**Q53 - As a result of teachers implementing DI in my school, I have seen or heard evidence of the following among students (please answer any/all that apply):**

<table>
<thead>
<tr>
<th>Increased engagement/motivation/commitment</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased success/achievement/quality of work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased respect for diverse ways of learning</td>
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<tr>
<td>Increased understanding/knowledge</td>
<td></td>
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<tr>
<td>Increased confidence/self-esteem</td>
<td></td>
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<tr>
<td>Improved ability to make choices</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Fewer classroom management issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Improved attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased skill at self-assessment</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>More assignments handed in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify below)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**FOR DIPLS PARTICIPATION = YES ONLY**

### DIPLS Outcomes

**Q54 - The Differentiated Instruction Professional Learning Strategy has affected students, teachers, and/or administrators by (please answer all):**

<table>
<thead>
<tr>
<th>Engaging students through personalized learning opportunities</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting teachers through professional learning opportunities</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promoting instructional leadership</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Engaging teachers in enhancing classroom practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitating professional growth through reflective practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using assessment to facilitate student learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FOR DIPLS PARTICIPATION = YES ONLY**

**Q55 - What unexpected outcomes (positive or negative) have you observed as a result of the focus on DI professional learning?**

---

Page 8
Evaluation of the DIPLS

DI in Action Survey

Introduction

Welcome to the 2011 version of the DI in Action Survey!

This survey explores your perceptions and observations regarding differentiated instruction and the Differentiated Instruction Professional Learning Strategy. The Strategy includes professional development opportunities and resources that were created by the Ontario Ministry of Education. These include DI workshops, DI mentoring/teaching, online webinars, DI summer program, DI brochures, teaching/learning examples (TLXs), etc.

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It will take approximately 10-15 minutes to complete the survey and it must be completed in one sitting. It is not possible to save your work and continue at a later time.

Thank you for your participation!

Background Information

Q1 - The school board I work for is:

Q2 - My current role is:
- Teacher
- School Administrator
- Board Personnel

Role

Q65 - Since 2007, my role has mostly been:
- Teacher
- School Administrator
- Board Personnel
Evaluation of the DIPLS:

**DI in Action Survey**

Q66 (1-5) - My current role is...(check any/all that apply)
- [ ] Consultant/ Resource Teacher
- [ ] DI/knowledgeable facilitator
- [ ] Superintendent
- [ ] Coach (e.g., literacy, mathematics)
- [ ] Other (Please specify below)
  
Other

Q67 - The number of years of I have had a board-level role is...

Q68 - Since 2007, I have worked:
- [ ] Only in my current board
- [ ] In 1 or more other boards

**Organizational Support**

Q69 (1-5) - In the Ontario board where I have worked as board personnel the longest over the past 4 years, I have experienced the following (please answer all):

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sufficient classroom or school resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support to try new teaching practices or strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consideration of staff perspectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encouragement to participate in professional learning opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognition of the efforts of board personnel to improve student success</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advocacy and support for collaborative inquiry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## DI in Action Survey

**Q70** - In the Ontario board where I have worked as board personnel the longest over the past years, I have been given opportunities to continue to learn about DI

- [ ] Strongly Agree
- [ ] Agree
- [ ] Neither Agree nor Disagree
- [ ] Disagree
- [ ] Strongly Disagree

**Q71** - In the Ontario board where I have worked as board personnel the longest over the past years, I have been given opportunities to build my capacity to support schools in implementing DI

- [ ] Strongly Agree
- [ ] Agree
- [ ] Neither Agree nor Disagree
- [ ] Disagree
- [ ] Strongly Disagree

## DI Activities

**Q72** - I have taken part in differentiated instruction professional learning activities (e.g. DI workshop, DI mentoring/coaching, learning team)

- [ ] Yes
- [ ] No

*IF YES: To Q73 (DIPLS Experience)
IF NO: To Q76 (Use of DI Resources)*

## Participation in DI Activities

**Q73** - The length of time I have been involved in differentiated instruction professional learning activities (e.g. DI workshop, DI mentoring, learning team) is:

- [ ] Less than 1 year
- [ ] 1 year
- [ ] 2 years
- [ ] 3 years
- [ ] 4 years or more

*FOR DIPLS PARTICIPATION = YES ONLY*
### Q74 (1-19) - Consider the following differentiated instruction (DI) professional learning activity participated in and/or facilitated (please answer any/all that apply):

<table>
<thead>
<tr>
<th>DI Activities</th>
<th>Participation</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>One time workshop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workshop series</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Book study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning team/network (e.g. grade team, subject team/association, whole staff)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online workshop/Webinar/Adobe Connect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning and teaching with a colleague focusing explicitly on DI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-board, or non-ministry, sponsored session (e.g. Federation or Faculty of Education course)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI summer program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI classroom visits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentoring by a DI-knowledgeable colleague</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with a DI-knowledgeable learning team facilitator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coaching by a DI-knowledgeable coach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-assessing student work (e.g. moderated marking)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning team engaged in collaborative inquiry (e.g. the Professional Learning Cycle, the Teaching and Learning Critical Pathway, action research)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify below)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other:**

---

Page 4
DI in Action Survey

Q75 - As a result of my participation in DI professional learning opportunities I have a better understanding of how to support school staff as they implement DI in their classrooms

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree

FOR DIPLS PARTICIPATION = YES ONLY

DI Resources

Q76 & 86 - I have used a Ministry DI Resource (e.g. DI Brochure, PowerPoint, DI Teaching/Learning Examples)

- Yes
- No

FOR ALL BP
IF YES = Q77
IF NO = Q78

DI Resources

Q77 & 87 (1-6) - Please consider the Ministry DI resources that you have used in your current role (please answer any/all that apply):

FOR DI RESOURCES = YES ONLY

<table>
<thead>
<tr>
<th>Resource</th>
<th>Once, Twice, A few times, Many times</th>
<th>This resource was useful in supporting the professional learning of school staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI Brochures</td>
<td></td>
<td>Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree</td>
</tr>
<tr>
<td>DI Educator Packages (e.g. Scrapbook, Guides, Cards)</td>
<td></td>
<td></td>
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<tr>
<td>DI DVDs &amp; Facilitator Guides</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI Teaching/Learning Examples (TLXs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI Professional Learning Modules (Ministry PowerPoint presentations and handouts)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify below)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Beliefs
### DI in Action Survey

**Q78 & 88 - I believe that by implementing DI, student learning can be significantly improved**

- [ ] Strongly Agree
- [ ] Agree
- [ ] Neither Agree nor Disagree
- [ ] Disagree
- [ ] Strongly Disagree

**Q79 & 89 - I believe that by implementing DI, student engagement can be significantly improved**

- [ ] Strongly Agree
- [ ] Agree
- [ ] Neither Agree nor Disagree
- [ ] Disagree
- [ ] Strongly Disagree

### DI Support

**Q80 & 90 - I feel confident in my ability to support school staff in their DI professional learning**

- [ ] Strongly Agree
- [ ] Agree
- [ ] Neither Agree nor Disagree
- [ ] Disagree
- [ ] Strongly Disagree

### Superintendent Identification

**Q81 & 91 - I am currently a board superintendent**

- [ ] Yes
- [ ] No

If Yes = Q83

If No = Q82

### Use of Knowledge and Skills
### DI in Action Survey

**Q82 & 92 (1-8) -** Currently, I am working with staff to support them as they develop capacity to (please answer any/all that apply):  

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine students' level of readiness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine students' interests</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Determine students' learning preferences</td>
<td></td>
<td></td>
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<tr>
<td>Provide assignments/tasks to meet varying levels of readiness (e.g. amount of support and complexity)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide assignments/tasks based on different student interests</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Provide assignments/tasks based on different learning preferences</td>
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<tr>
<td>Provide choices for students to demonstrate learning</td>
<td></td>
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<tr>
<td>Create flexible groups based on student characteristics and needs</td>
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</tr>
</tbody>
</table>

**FOR SUPERINTENDENTS = NO**

### Student Outcomes

**Q83 (1-11) -** As a result of implementing DI in my board, I have seen or heard evidence of the following among students (please answer any/all that apply):  

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased engagement/motivation/commitment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased success/achievement/quality of work</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Increased respect for diverse ways of learning</td>
<td></td>
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<tr>
<td>Increased understanding/knowledge</td>
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<tr>
<td>Increased confidence/self-esteem</td>
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<tr>
<td>Improved ability to make choices</td>
<td></td>
<td></td>
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<tr>
<td>Fewer classroom management issues</td>
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<tr>
<td>Improved attendance</td>
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<tr>
<td>Increased skill at self-assessment</td>
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<tr>
<td>More assignments handed in</td>
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<tr>
<td>Other (please specify below)</td>
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</tr>
</tbody>
</table>

**FOR DIPLS PARTICIPATION = YES**

### DIPLS Outcomes
## DI in Action Survey

**Q84 - The Differentiated Instruction Professional Learning Strategy has affected students, teachers, and/or administrators by (please answer all):**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engaging students through personalized learning opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting teachers through professional learning opportunities</td>
<td></td>
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<tr>
<td>Promoting instructional leadership</td>
<td></td>
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<tr>
<td>Engaging teachers in enhancing classroom practice</td>
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<tr>
<td>Facilitating professional growth through reflective practice</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Using assessment to facilitate student learning</td>
<td></td>
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</tr>
</tbody>
</table>

**FOR DIPLS PARTICIPATION = YES**

**Q85 - What unexpected outcomes (positive or negative) have you observed as a result of the focus on DI professional learning?**

<table>
<thead>
<tr>
<th>FOR DIPLS PARTICIPATION = YES</th>
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</thead>
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<td></td>
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</table>
Appendix H: Information Letter to SSLs for Case Studies

Evaluation of the Ontario Ministry of Education’s Differentiated Instruction Professional Learning Strategy

In February, 2011, the Ontario Ministry of Education awarded a team at the University of Ottawa a contract to evaluate the Differentiated Instruction Professional Learning Strategy (DIPLS). This team is led by Jess Whitley and includes Brad Cousins, Cheryll Duquette, Catherine Elliott as well as our project manager, Shari Orders.

As you know, over the past few years there have been a number of professional development activities within the DIPLS aimed at improving teachers’ awareness of and ability to use differentiated instruction strategies in their classrooms. We have been asked to determine how effective these activities have been and what, if any impact they have had on classroom practice. In particular, we would like to explore the perceptions of teachers and administrators regarding the impact of the DIPLS. The Ministry will then use this information to inform and improve future professional learning strategies.

The U of O evaluation consists of a number of steps but is currently focused on Case Studies. Case studies within 6 boards across Ontario - Fall, 2011

- 1-2 schools/board (e.g. 7-12 or 9-12 and 7 & 8)
- Schools with a range of familiarity with DIPLS
- Brief interviews with key informants (5-6 at board & school level)
- 1 focus group with 8-10 teachers & 1 with 8-10 students/school
- Funding for teacher release time is provided

We are hoping to partner with the XX School Board to conduct a case study in one or two of your schools.

We are hopeful that administrators and educators within your board will consider taking part in this important project and sharing their experiences with the DIPLS with us in order to better inform next steps of the DIPLS and future professional development initiatives.

If you have any questions or concerns, or would like further information on the evaluation, please contact us!

Thank you for your assistance with this important project.

Jess Whitley, Principal Investigator
jwhitley@uottawa.ca
(613) 562-5800 x4963
Appendix I: Teacher Focus Group Recruitment Flyer

Let your voice be heard!
Participate in the DIPLS Evaluation

In collaboration with the Ministry and school boards across the province, we are conducting an evaluation of the Differentiated Instruction Professional Learning Strategy. This strategy includes professional development and resources related to differentiated instruction.

In order to explore the perceptions of Ontario educators about differentiated instruction and the DIPLS we are conducting a case study within your board. As part of this, we would like to speak to small groups of teachers (8-10) in a focus group. In addition, we will be interviewing key administrators and board personnel individually to gather their perceptions.

We will be conducting a focus group for 8 – 10 teachers in your board in October/November, 2011. Teachers will be asked to reflect on their personal experiences with differentiated instruction and/or the DIPLS and to discuss these with their colleagues. The focus group is expected to take 45 minutes to an hour. All participation is anonymous and confidential.

Focus group data will be used to further our understanding of DI and the DIPLS from the perspectives of educators engaged in the field. This information will then be used by school boards and the Ministry as input for future professional development and DI initiatives.

We need your voice to make this happen!

Light refreshments will be provided and all participants will be entered into draws for multiple gift certificates!

Contact us if you have any questions:
DIPLS@uottawa.ca
1-877-868-8292 ext. 4963 (Dr. Jess Whitley)
Appendix J: Student Focus Group Recruitment Flyer

Let your voice be heard!
Participate in the DIPLS Evaluation

Dear Student:

My name is Jess Whitley. I am part of a team of researchers from the University of Ottawa. We have been asked by the Ministry of Education to look at some of the new ways of teaching and learning (known as Differentiated Instruction) that have been put in place over the past few years.

Every student is different and learns in his or her own way. For example, some like to work in groups or pairs while others learn best on their own. Over the last few years teachers have been learning ways to make sure that every student has the chance to learn in the way that is best for them. We would like to talk to students to find out what they think about the different ways of teaching and learning that might be happening in their classes.

We would like to invite you to be a part of our research by participating in a focus group discussion. You would get together with eight to ten other students from your school, to talk about teaching and learning for about 45 minutes. The discussion would be conducted at your school during the school day. What you say will be kept private and confidential – your teachers or parents will not know what we talked about during the discussion. Students will be selected on a first-come, first-serve basis.

We are having similar discussions with students across the province. Information we get from the focus groups will be used to get a better understanding of what students think about the best ways to learn. We will write a report and send it to school boards as well as the Ministry of Education.

If you want to take part, please have your parents sign the attached consent form and bring it back to your teacher.

Contact us if you have any questions:
DIPLS@uottawa.ca
1-877-868-8292 ext. 4963 (Dr. Jess Whitley)

Light refreshments will be provided and all participants will be entered into draws for multiple gift certificates!
Appendix K: Key Informant Interview Guide

- Welcome & Introductions
- What are the goals of the project
  a. Evaluate DIPLS; Professional learning strategy to prepare educators, 7-12, to integrate differentiated instruction in their classroom; includes resources (videos, teaching and learning examples, brochures) and activities (workshops, may have had Karen Hume or Carol Ann Tomlinson)

1. Can you tell me about the professional development you’ve been part of that has focused on DI? *Try to differentiate between Ministry & board PD*
2. When you think about professional development for DI, what activities or resources come to mind?
   a. So for example, workshops, videos, teaching & learning examples, summer institutes, PowerPoint presentations, etc.
3. How effective do you think [name the activity/resource] has been in terms of:
   a. Expanding instructional knowledge/skills of educators?
   b. Building awareness/knowledge of DI?
   c. Facilitating/supporting collaborative inquiry?
4. In making that judgment, what evidence are you thinking about?
5. What factors (human and material resources, time, and political support) do you think are essential for ensuring that the DIPLS is successful?
6. To what extent are those factors present?
7. Are there particular obstacles that stand in the way of the DIPLS being successful?
8. Do you think that there is a belief among educators that DI is a really effective way to increase student learning?
9. The next question tries to capture the unexpected. What has been particularly surprising or disappointing about DIPLS or worked in ways other than you might have anticipated?
10. One last question, is there something we should have asked and did not? In other words, is there a question that you would have liked us to ask that we did not? If so, please feel free to ask that question and to provide the answer that you think most appropriate.
Appendix L: Teacher Focus Group Guide

- Welcome & Introductions
- What are the goals of the project
  - Evaluate DIPLS; Professional learning strategy to prepare educators, 7-12, to integrate differentiated instruction in their classroom
- Guidelines of Focus group:
  - Everything remains confidential (even in reports)
  - No right or wrong answers; interested in hearing as many opinions and perspectives as possible
  - Interested in hearing from everyone; if I haven’t heard from you for a while I may ask for your opinion
  - Interested in knowing if you agree or disagree with the comments & perceptions of others so please let me know those

1. How would you define Differentiated Instruction for someone who has never heard of it?
2. What kind of preparation did you have in order to put DI in place through the DIPLS?
   a. Specific resources/activities? Try to distinguish between Ministry and board/school PD
3. What specific elements of the preparation did you find the most (and least) helpful for:
   a. Developing a real understanding of DI?
   b. Developing your own practice? (Prompt: Opportunities for collaboration? Shared planning?)
4. What else would be helpful in terms of preparation in the future?
   a. Prompt: At the classroom and school level? Board level?
5. How prepared did you feel in terms of implementing Differentiated Instruction?
6. How do you implement elements of DI in your own classroom practice? (Specific examples)
   a. Prompt: Are there times when you offer students choices? When you use groups? When you might prepare different levels of work? That you might provide options for assessments? When you consider student interests or learning style? Etc.
7. What impact have you seen, if any, on the students in your classrooms? (With respect to learning, behaviour, engagement, academic achievement, social skills, etc.)
8. Do you think that there is a belief among educators that DI is a really effective way to increase student learning?

Closing Comments

9. Is there anything else that you would like me to pass along on your behalf regarding the DIPLS?
10. Do you have any other advice for the people working on this initiative?
Appendix M: Student Focus Group Guide

We are conducting research in your school as well as other schools across the province to find out what students think about some new ways of teaching and learning that have been put in place over the past few years. We really appreciate your ideas and insight into what is happening in your different classes.

Guidelines of Focus group:

- Everything remains confidential (even in reports)
- No right or wrong answers; interested in hearing as many opinions and perspectives as possible
- Interested in hearing from everyone; if I haven’t heard from you for a while I may ask for your opinion
- Interested in knowing if you agree or disagree with the comments & perceptions of others so please let me know those

General
1. What are the classes you’ve like best in high school [then least]?
2. What kinds of things do you do in these classes?
3. In what classes do you get the best marks? Why do you think this is?
4. Do you usually do best in the classes that you like?

Instruction (learning preferences, readiness, interests)
5. Do you know in what ways you learn best in the classroom? For example, by listening to explanations, or looking at diagrams, or working hands-on with materials?
6. Do your teachers teach you in ways that match with the ways you learn?
7. Do you find that your teachers teach in different ways depending on the students they have? In what way?
8. Do you find that the work that you do is at a good level for you? Is it too easy, too hard, or just right?
9. Do you find that you can explore/include your own interests in your classes? When and in what way?

Flexible Grouping
10. Do your teachers ever group students in your classes together?
11. Are you usually in the same groups or do you get switched around for different activities?

Choices
12. Does everyone in your classes do the same work? If no, how is it different?
13. What kind of choices do you get to make in your classes? In what you’re doing or how you complete your assignments? (e.g. topics, kinds of activities, ways of demonstrating knowledge/skills)

Assessment
a. What kinds of ways do your teachers find out about what you know?
b. Are you able to show what you’ve learned in the classroom?

15. Are you ever surprised about your mark when you get an assignment or test back?

Environment

16. Does everyone have to work in the same room? If no, where else can people work?
17. Does everyone work with the same tools? (e.g., pencil and paper, computers), If no, what else can students use?
18. Do students sometimes use the computers to do work? What kinds of programs do they use? Can everyone use them?
19. Do your teachers use technology like smart Boards in your classes? What do they use this technology for?
20. Do your teachers ever move things around in your classes? (e.g. desks, tables, computers). Why do they do this?
## Appendix N: Coding Protocols Used for Qualitative Data Analysis

### Final coding protocol for Teacher Focus Groups, Key Informant Interviews

<table>
<thead>
<tr>
<th>Code</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Teachers’ Awareness of DI</td>
</tr>
<tr>
<td>U</td>
<td>Teachers’ Understanding of DI</td>
</tr>
<tr>
<td>P</td>
<td>Teachers’ Practice of DI</td>
</tr>
<tr>
<td>ET</td>
<td>Enhancement to implementation of DI - Time</td>
</tr>
<tr>
<td>ES</td>
<td>Enhancement to implementation of DI - Support</td>
</tr>
<tr>
<td>ER</td>
<td>Enhancement to implementation of DI - Resources (human or material)</td>
</tr>
<tr>
<td>EO</td>
<td>Enhancement to implementation of DI - Other</td>
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<tr>
<td>IT</td>
<td>Impediment to implementation of DI - Time</td>
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<td>IS</td>
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<td>IO</td>
<td>Impediment to implementation of DI - Other</td>
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<tr>
<td>IP</td>
<td>Impact of DI/DIPLS on Instructional Practice</td>
</tr>
<tr>
<td>SO</td>
<td>Impact of DI/DIPLS on Student Outcomes (engagement, performance, achievement)</td>
</tr>
<tr>
<td>C</td>
<td>Impact of DI/DIPLS on Culture (classroom, school, board)</td>
</tr>
<tr>
<td>MI</td>
<td>Ministry Implementation strategies/approaches</td>
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<tr>
<td>BI</td>
<td>Board Implementation strategies/approaches</td>
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<tr>
<td>MR</td>
<td>Ministry Resources used in implementation</td>
</tr>
<tr>
<td>BR</td>
<td>Board Resources used in implementation</td>
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<tr>
<td>OR</td>
<td>Other Resources used in implementation</td>
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### Final coding protocol for Student Focus Groups

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<thead>
<tr>
<th>Code</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Student Awareness of divergent learning strengths/styles</td>
</tr>
<tr>
<td>P</td>
<td>Teachers’ Practice of elements associated with DI (flexible grouping, choice, etc.)</td>
</tr>
<tr>
<td>SO</td>
<td>Perceptions related to Student Outcomes (engagement, performance, achievement)</td>
</tr>
</tbody>
</table>
Appendix O: Final Structural Equation Model for Teacher Sample

Model Fit Indices

\( \chi^2 = 359.95, \text{df}(28), \quad p < .001 \)

Tucker-Lewis coefficient (TLI) = .951

Comparative Fit Index (CFI) = .979

Root Mean Square Error of Approximation (RMSEA) = .054